

Greek Medical Literature and its Readers

From Hippocrates to Islam and Byzantium

Edited by

Petros Bouras-Vallianatos and Sophia Xenophontos



CENTRE FOR HELLENIC STUDIES, KING'S COLLEGE LONDON

Greek Medical Literature and its Readers

This volume focuses on the relationship between Greek medical texts and their audience(s), offering insights into how not only the backgrounds and skills of medical authors but also the contemporary environment affected issues of readership, methodology and mode of exposition. One of the volume's overarching aims is to add to our understanding of the role of the reader in the contextualisation of Greek medical literature in the light of interesting case-studies from various – often radically different – periods and cultures, including the Classical (such as the Hippocratic corpus) and Roman Imperial period (for instance Galen), and the Islamic and Byzantine world. Promoting, as it does, more in-depth research into the intricacies of Greek medical writings and their diverse revival and transformation from the fifth century BC down to the fourteenth century AD, this volume will be of interest to classicists, medical historians and anyone concerned with the reception of the Greek medical tradition.

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Sophia Xenophontos is Lecturer in Classics at the University of Glasgow.

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Contents

<i>Figures</i>	vii
<i>Contributors</i>	viii
<i>Preface</i>	xi
<i>Note to the reader</i>	xii
Introduction	1
PETROS BOURAS-VALLIANATOS AND SOPHIA XENOPHONTOS	
PART I	
The Classical world	5
1 Alcmaeon and his addressees: Revisiting the incipit	7
STAVROS KOULOUMENTAS	
2 Gone with the wind: Laughter and the audience of the Hippocratic treatises	30
LAURENCE M. V. TOTELIN	
3 The professional audiences of the Hippocratic <i>Epidemics</i> : Patient cases in Hippocratic scientific communication	48
CHIARA THUMIGER	
PART II	
The Imperial world	65
4 Galen’s <i>Exhortation to the Study of Medicine</i> : An educational work for prospective medical students	67
SOPHIA XENOPHONTOS	

5	An interpretation of the preface to <i>Medical Puzzles and Natural Problems</i> 1 by Pseudo-Alexander of Aphrodisias in light of medical education	94
	MICHIEL MEEUSEN	

PART III	
The Islamic world	111

6	The user-friendly Galen: Ḥunayn ibn Ishāq and the adaptation of Greek medicine for a new audience	113
	UWE VAGELPOHL	
7	Medical knowledge as proof of the Creator’s wisdom and the Arabic reception of Galen’s <i>On the Usefulness of the Parts</i>	131
	ELVIRA WAKELNIG	

PART IV	
The Byzantine world	151

8	Physician versus physician: Comparing the audience of <i>On the Constitution of Man</i> by Meletios and <i>Epitome on the Nature of Men</i> by Leo the Physician	153
	ERIKA GIELEN	
9	Reading Galen in Byzantium: The fate of <i>Therapeutics to Glaucon</i>	180
	PETROS BOURAS-VALLIANATOS	

<i>Index</i>	231
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Figures

9.1	Parisinus suppl. gr. 446, f. 11v (Bibliothèque nationale de France, Paris)	203
9.2	Beinecke MS 1121, f. 117v (Beinecke Rare Book and Manuscript Library, Yale University, New Haven, CT)	204
9.3	Beinecke MS 1121, f. 117r (Beinecke Rare Book and Manuscript Library, Yale University, New Haven, CT)	205
9.4	Laurentianus Plut. 75.9, f. 175r (Biblioteca Medicea Laurenziana, Florence)	206
9.5	Parisinus suppl. gr. 634, f. 39v (Bibliothèque nationale de France, BnF, Paris)	207
9.6	Parisinus suppl. gr. 634, f. 48v (Bibliothèque nationale de France, BnF, Paris)	208
9.7	Marcianus gr. App. cl. V/4 (coll. 544), f. 133v (Biblioteca Nazionale Marciana, Venice)	209
9.8	Vindobonensis med. gr. 17, f. 338r (Österreichische Nationalbibliothek, Vienna)	210
9.9	Wellcome MS.MSL.52, f. 146r (Wellcome Library, London)	211

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Preface

This edited volume emerged out of an international conference on *Greek medical texts and their audience: perception, transmission, reception*, which took place on 12–13 December 2014 at King’s College London. The event stimulated considerable interest in the interrelation between Greek medical literature and its readers and brought together scholars from a variety of disciplines, who offered their expertise on different aspects of this topic. The editors of this volume, who were also the conference organisers, are deeply grateful to the Centre for Hellenic Studies for hosting the conference, Dionysios Stathakopoulos, and particularly the Director of the Centre, Roderick Beaton, for wholeheartedly embracing our initiative and enabling us to proceed with its realisation. This conference would not have been possible without the generous support of the A.G. Leventis Foundation and the Institute of Classical Studies, School of Advanced Study, University of London. Special thanks go to Laura Douglas and the entire AHRI team at KCL for organisational arrangements. The editors would also like to thank all the speakers, chairs (Michael Trapp, Peter Singer, Peter Pormann, Barbara Zipser), and participants, who contributed to the lively discussions. We are also grateful to Daniel Bertoni, Jordi Crespo Saumell, Lesley Dean-Jones, Christophe Erismann, Maria Luisa Garofalo, Dimitris Karambelas, Joshua Olsson, and Katherine van Schaik, for their stimulating papers, although these do not appear in the present volume. We would like to thank Glen Cooper, Aileen Das, Jason König, Orly Lewis, G. E. R. Lloyd, Ralph Rosen, Thomas Rütten, and John Wilkins, for providing expert advice and comments on different sections of the volume. The editorial process has been smooth and efficient due to the encouragement and intense support of Michael Trapp, who has been the ideal series editor throughout the various stages of preparing this volume, not least by meticulously reviewing the complete manuscript. Thanks also go to John Smedley and Michael Greenwood at Routledge for their help.

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Note to the reader

Original medical sources are cited by the name of the ancient author, followed by the title of the work, the numbering of the traditional division into books and/or sections where applicable, as well as a reference to the edition (volume in Roman numerals, page and line in Arabic numerals), e.g. Galen, *Loc. Aff.*, 3.14, ed. Kühn (1824) VIII.214.2–4. Latin abbreviations for original titles feature in the volume's Index.

Introduction

Petros Bouras-Vallianatos and Sophia Xenophontos

Over the last few decades there has been growing scholarly activity in the area of ancient medical literature. This activity has explored medical works in connection with the history of their transmission and textual criticism,¹ for their technical content,² their form,³ and also their function as manuals on medical theory and practice.⁴ Moreover, the significance of those texts as products of their societies has been well acknowledged;⁵ however, less work has been done specifically on their relationship with their audience or on how medical authors attempted to appeal to particular groups of readers.

This edited volume aims to make an important contribution to understanding the role of the audience in the contextualisation of Greek medical texts by looking into the interaction between authors and readers and offering insights into how the author's background, experience, and skills condition his readership, methodology, and mode of exposition. One of the novelties of this volume is that it examines for the first time Greek medical texts which for the most part have been little studied and poorly understood. In addition, by delving into the reception of these texts in later socio-cultural settings, it throws light on the subject of subsequent audiences and the widening of the horizon of expectations. The book does not aim to offer an exhaustive treatment of all the subjects it addresses but rather aims to demonstrate that many important issues concerning the impact of Greek medical texts on contemporary and later audiences, such as the interplay between medicine and philosophy, authorial narrative techniques, or purposeful transformation of the original material, require further investigation. The broader objective is to promote fresh interest both in the particular thinkers included here and in the variety of ways in which their works were revived, thus cultivating an appreciation of medical writing both as a literary genre and a form of expression.

The extended timespan and the geographical spread covered by the contributions to this volume are both distinctive and informative. The book is divided into four parts according to the historical and cultural setting that frames each text: chapters concerned with medical works of the Classical and the Imperial period form Parts I and II, while the introduction and dissemination of Greek medical works in the medieval Islamic and Byzantine world are addressed in Parts III and IV.

The three chapters of Part I are especially concerned with contemporary groups of intellectuals active in different contexts. In Chapter 1, **Stavros Kouloumentas**

2 Introduction

looks at Alcmaeon of Croton's (fifth century BC) incipit, the longest surviving extract from his treatise *On Nature*. By taking into account the fragmentary evidence for Alcmaeon's doctrines, his alleged connection with the Pythagoreans, and the opening sections of other contemporary philosophical and medical essays, Kouloumentas offers a new interpretation of the treatise's target groups: i.e. a narrow and specialised audience, comprising the members of a Pythagorean group active in the same competitive setting as Alcmaeon, and a broader audience, including, for example, any attendee at contemporary philosophical contests. The next two chapters centre on texts of the Hippocratic collection. **Laurence Totelin** (Chapter 2) explores *On Winds*, a text of a rhetorical character, and investigates how the reader might have reacted to its several allusions to wind and bloated bellies, starting from the observation that terms denoting farting were normally found in ancient comedy and satire, where the audience were expected to laugh. Building on the accepted view that people with no medical training (ἰδιῶται) read medical texts in antiquity, she argues that they would surely have found these wind theories amusing, although the Hippocratic author(s) would never have intended them to be humorous. **Chiara Thumiger** (Chapter 3) examines the patient reports found in the seven books of the *Epidemics*, informing her discussion by comparisons with modern approaches to clinical training, especially that relating to a doctor's communication with patients. Her analysis emphasises that both Hippocratic authors and their intended audiences were medical professionals. She also proposes a new reading of such cases by looking at them as manifestations of "mnemonic effort", which in itself reflects the audience-directedness of these texts, particularly in the light of the fact that contemporary medical practice was mainly dependent on oral learning and teaching.

The theme of the identity of the addressee of the text, which runs through the above mentioned contributions, is more explicitly brought out in the two chapters comprising Part II. **Sophia Xenophontos'** contribution (Chapter 4) focuses on the influential physician Galen and explores a lesser-known aspect of his profile, namely his identity as a moralist and soul-doctor, on the basis of his rather overlooked treatise *Exhortation to the Study of Medicine*. She discusses Galen's moralising methods and the educational elements of the essay, suggesting that its intended audience consisted of beginners in philosophy who were being urged to continue their professional studies on to medicine. She also draws thought-provoking links between Galenic and Plutarchan moralism, arguing that Galen's moral writings need to be placed squarely in the tradition of the practical ethics of the Imperial period. **Michiel Meeusen** (Chapter 5) discusses another didactic work, the *Medical Puzzles and Natural Problems* ascribed to Alexander of Aphrodisias, a hitherto unexplored collection from the early centuries AD, which belongs to the broader tradition of Aristotelian natural philosophy. This work has attracted very little scholarly attention, and here Meeusen explores the preface to the first book of questions, arguing that it points to a dynamic relationship between author and reader in the context of a medical school setting. Its format, which reflects its affiliation with question and answer literature, has implications for the way the author communicates knowledge to his reader through the application of authoritative strategies that ensure the reader's attentiveness.

Part III turns to the influence of Greek medical literature, particularly Galen, in the medieval Islamic world with special emphasis on the importance of translators and their role as mediators and disseminators of the Galenic legacy. **Uwe Vagelpohl** (Chapter 6) discusses Ḥunayn ibn Ishāq, the ninth-century translator of Greek medical texts into Syriac and Arabic, and the different strategies he applies in order to make his translations resonate with his audience: a) amplification of the source text with the ultimate aim of giving his reader an accurate account of Galenic medical knowledge; b) annotation of his translations; and c) reworking of the medical content of translated texts in the form of summaries that worked as manuals or textbooks for a variety of audiences including physicians, medical students, and scholars. Another distinctive feature of Ḥunayn's work, according to Vagelpohl, is that his translations accommodated the stylistic preferences of the patron who commissioned them. Beyond the strictly textual level, Vagelpohl also shows that the revived Galenic texts were meant to be used by practising physicians for diagnostic and therapeutic purposes and therefore the accuracy of Ḥunayn's translations potentially impacted on contemporary healing practices. **Elvira Wakelnig** (Chapter 7) considers mainly how Galen's *On the Usefulness of the Parts* was adapted in the Arabic-Islamic world of the ninth to the twelfth century to meet the needs and expectations of a non-medical as well as a medical audience. She explains how the Arabic translation of the Galenic work, which was most probably made by Ḥubaysh in the mid-ninth century, focuses exclusively on the role of the Creator rather than on Galen's emphasis on personified Nature. These adaptations serve the translator's intended readership, who were physicians but also scholars sensitive to teleological arguments. In the Arabic rendering, the Galenic work was received more as a philosophical-theological treatise than a strictly physiological one.

Lastly, Part IV of the volume turns its attention to the Byzantine world. **Erika Gielen** (Chapter 8) concentrates on two Byzantine texts on human anatomy, i.e. the *Constitution of Man* by Meletios and the *Epitome on the Nature of Men* by Leo the Physician, both works largely neglected by modern scholars, and she offers novel insights into the history of medical anthropology in the early Middle Ages. In particular, Gielen shows how Greek medical texts were reworked in the Byzantine period to meet the expectations of contemporary audiences. Meletios often presents his contemporaries with Galenic material on the anatomy and physiology of various parts of the body in a Christian-friendly version by supplementing his account with quotations from the Church Fathers. One of the original contributions made by this chapter is the first ever critical discussion of the relationship between these two works by Meletios and Leo. Although Leo seems to be excerpting from Meletios, he often adapts the text to a more professional audience by eliminating references to patristic literature. **Petros Bouras-Vallianatos** (Chapter 9) reflects on key themes in this volume, especially the role of authority and expertise in the appropriation of Galenic material in educational contexts and the practical implications of the appropriated treatises on tackling disease. He shows that Byzantine scribes, medical authors, and practising physicians, through their active involvement with the transmission and dissemination of Galen's *Therapeutics to Glaucón*, were able to regulate and/or enhance direct or indirect access to

4 Introduction

the text. By presenting their own perspective on reading the text, early Byzantine commentators offered it a strong didactic twist, in order to make it part of a medical curriculum. Furthermore, Byzantine practising physicians carefully singled out specific parts of the Galenic treatise to include in their own practical manuals in order to serve contemporary and future physicians.

We hope that this volume will constitute the starting point for more extensive research into the significant role of the audience in the understanding and interpretation of ancient and medieval medical texts. In the light of the contributions in Parts III and IV, this book also aims more specifically to focus further scholarly attention on the reception of the Greek medical tradition in medieval Islamic and Byzantine societies.

Notes

- 1 E.g. Garzya and Jouanna (1999).
- 2 See, for example, the recent volume edited by Horstmanshoff, King and Zittel (2012). See also the edited volume by Maire (2014) on exchanges between Greek and Latin ancient medical texts.
- 3 See Formisano (2001); Fögen (2005); and Asper (2007).
- 4 E.g. Horstmanshoff (2010).
- 5 Eijk, Horstmanshoff and Schrijvers (1995); see also section 2 and 4 of Eijk (2005). Another strand of research is concerned with the construction of authority; see, for example, Asper (2013), Taub and Doody (2009), and now König and Woolf (2017).

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Part I

The Classical world



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1 Alcmaeon and his addressees

Revisiting the incipit*

Stavros Kouloumentas

Alcmaeon's (fifth century BC) incipit constitutes one of the few surviving prefaces of early Greek prose and the longest verbatim quotation from his treatise conventionally called *On Nature*. It consists of a formal introduction of the author, a reference to three addressees, and a statement concerning the limits of human knowledge in contrast to the clarity attained by the gods. The text is preserved by Diogenes Laertius (third century AD) in his history of Greek philosophy, a work that lays special emphasis on the lives of the philosophers and summarises their main doctrines:

ἦν δὲ Πειρίθου υἱός, ὥς αὐτὸς ἐναρχόμενος τοῦ συγγράμματός φησιν·
“Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ
Βαθύλλῳ περὶ τῶν ἀφανέων περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς
δὲ ἀνθρώποις τεκμαίρεσθαι” καὶ τὰ ἑξῆς.¹ [unpunctuated asyndeton]

The incipit is probably drawn from works which Diogenes Laertius often uses as his source: Callimachus' (third century BC) *Tables*, an elaborate catalogue of the holdings of the Alexandrian library that divided authors into classes and listed the representatives of each genre alphabetically along with some information concerning their life and writings, and Demetrius of Magnesia's (first century BC) *On Poets and Authors of the Same Name*, a biographical handbook with similar content.² The fact that Diogenes Laertius declares that he quotes from the very beginning of Alcmaeon's treatise and that the fragment contains traces of the Doric (ἔχοντι) and Ionic (Κροτωνιήτης . . . Πειρίθου . . . ἀφανέων) dialects is a strong indication of its genuineness. The other words, however, are preserved in the Attic dialect (e.g. σαφήνειαν instead of the Ionic σαφηνεῖην or the Doric σαφανείαν), an indication that Alcmaeon's wording was modified in part during the scribal transmission.

There are several difficulties that complicate our effort to unravel the function and meaning of the incipit. First of all, two textual problems should be examined: the asyndeton in the middle of the fragment (περὶ τῶν ἀφανέων περὶ τῶν θνητῶν) and the syntactically incomplete statement at the end (ὥς δὲ ἀνθρώποις τεκμαίρεσθαι).³ But in addition to this, we have to conjecture as to how the incipit is connected with the other known sections of Alcmaeon's treatise, which focus

on microcosmic structures and processes. It is also unclear whether the incipit was constructed for oral or written presentation and whether it was intended to persuade a target group, such as friends, students, or members of a Pythagorean group, of Alcmaeon's views.

The aim of this chapter is to reassess these interconnected problems by surveying the existing literature and taking into account the fragmentary evidence concerning Alcmaeon's doctrines, his alleged connection with the Pythagoreans, and the opening sections of contemporary philosophical and medical treatises. I shall suggest that Alcmaeon's reference to three addressees may well be polemical, as was common in the archaic era, and that his incipit can be seen as providing evidence for the clash between empiricism and inspiration in early Greek thought.

Alcmaeon and his audience

Different suggestions have been proposed concerning the punctuation and interpretation of the fragment (see Table 1.1), as well as the relationship between Alcmaeon and the figures referred to in the incipit.

To begin with, Reiske suggests that the asyndeton should be divided into two parts with the conjunction "or".⁴ On this reading, the reference to "things that are non-manifest" is followed by an additional phrase, probably inserted by Diogenes Laertius into Alcmaeon's text, which specifies that these things are subject to death. Other scholars delete the second part of the asyndeton in order to produce a smoother text. Wachtler, for instance, argues that the phrase *περὶ τῶν θνητῶν* has been interpolated by a careless scribe who thought that Alcmaeon draws a contrast between *ἀθάνατα* and *θνητά* (a common polarity in ancient literature), and he attempts to reconstruct the original linguistic form of the fragment by transforming all words into Ionic.⁵ Wachtler thus believes that *περὶ τῶν θνητῶν* should be deleted and *περὶ τῶν ἀφανέων* should be replaced by *περὶ τῶν ἀθηήτων* ("concerning things that are unseen"). Although a few scholars accept this drastic emendation, Cobet (who produced the first critical edition of the text of Diogenes Laertius) and others agree that the phrase *περὶ τῶν θνητῶν* can hardly go back to Alcmaeon.⁶

Gomperz attempts to interpret the incipit from a different perspective. He suggests that the first part of the asyndeton indicates the topic of the discourse and so functions as a sort of title, while the second part constitutes the beginning of Alcmaeon's demonstration. He thus divides the asyndeton into two parts with a semicolon: "concerning things non-apparent: Concerning mortals (*or* things mortal) the gods [alone] have precise insight".⁷ In Gomperz's view, the discourse was not a fixed account but embodied a general introduction to medical issues given by Alcmaeon to three disciples on a particular occasion. This suggestion is built on the assumption that Alcmaeon was a sort of teacher who offered private lectures. We thus possess extracts from Alcmaeon's notes or written records of his students. Nevertheless, Diogenes Laertius clearly refers to a prose work that has a systematic content and reports that Alcmaeon was the first to compose a treatise *On Nature*, a claim found in other authors too (DK 24 A1–2). Indeed, the fact that

Table 1.1 The punctuation and translation of Alcmaeon’s fragment

Reiske (in Wachtler 1896)	Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀφανέων <ῆ> περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	–
Cobet (1850)	Ἀλκμαίων Κροτωνιήτης τὰδ’ ἔλεξε, Πειρίθου υἱὸς, Βροντίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· Περὶ τῶν ἀφανέων, [περὶ τῶν θνητῶν] σαφήνειαν μὲν θεοὶ ἔχοντι· ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	Alcmaeon Crotoniates haec dixit, Pirithoi filius, Brontino et Leonti et Bathyllo: De invisibilibus, [de mortalibus] manifestam quidem scientiam habent dii; quantum vero conjicere hominibus licet (tr. Cobet).
Wachtler (1896)	Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε, Περίθου υἱός, Βροντίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀθηήτων {περὶ τῶν θνητῶν} σαφηνείην μὲν θεοὶ ἔχουσι· ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	–
Gomperz (1928)	Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ περὶ τῶν ἀφανέων· περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	Alkmaion of Kroton, the son of Peirithoos, spoke thus to Brotinos and Leon and Bathyllos concerning things non-apparent: Concerning mortals (<i>or</i> things mortal) the gods [alone] have precise insight; but as far as men may judge by indications (tr. Gomperz).
Diels-Kranz (1951–2)	Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀφανέων, περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	Alkmaion aus Kroton sprach folgendes, <i>er</i> , des Peirithoos Sohn, zu Brotinos und Leon und Bathyllos: Über das Unsichtbare wie über das Irdische haben Gewißheit die Götter, <i>uns</i> aber als Menschen <i>ist nur</i> das Erschließen <i>gestattet</i> (tr. Diels-Kranz).
Gemelli Marciano (2007)	Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀφανέων περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	Alcméon de Crotone, fils de Pirithos, a dit ces choses à Brotinos, Léon et Bathyllos : sur les choses invisibles concernant les mortels les dieux possèdent la certitude, mais dans la mesure où aux hommes, [il est possible] de tirer des indices (tr. Gemelli Marciano).
Dorandi (2013)	Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ περὶ τῶν ἀφανέων· περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι . . .	Alcmaeon of Croton, the son of Peirithus, said these words to Brotinus and Leon and Bathyllus concerning things that are non-manifest: the gods possess clear knowledge concerning things that are mortal, but insofar as humans may judge from signs (tr. Kouloumentas).

Alcmaeon introduces himself by mentioning both his origin and his father's name is a strong indication that the discourse was not confined to a small and select group.⁸ Alcmaeon's intention is to make his ideas available to a wide public.

Other scholars, including Burnet, Diels-Kranz, and Marcovich (the Teubner editor of the text of Diogenes Laertius), place a comma between the two parts of the asyndeton, thus supposing that we should understand an "and" or "as well as" coordinating the second part with the preceding part. This seems to be an appropriate way to punctuate the asyndeton for the two parts may well be supplementary: what is hidden refers to beings and processes that are mortal. The term ἀφανέα literally means "non-manifest", and so it is sharply contrasted with things which are visible through the sensory organs, especially the eyes that constitute the best medium for the research based on autopsy. It also has the connotations of "obscure" and "uncertain" for what cannot be seen is beyond our limited powers of comprehension. To cite some examples, invisible structures include the secret thoughts of the gods which cannot be understood by humans (Solon, fr. 17, ed. West); the depths of Tartarus (Pindar, fr. 207, ed. Snell-Maehler); distant things in the heavens and under the earth whose nature is perplexing (*On Ancient Medicine*, 1);⁹ non-manifest and difficult diseases about which a doctor can only conjecture (*On Winds*, 1);¹⁰ and obscure natural phenomena (Herodotus, 2.24). The term θνητά designates beings which are subject to death, namely humans, animals, and plants (Plato, *Sophist*, 265c1–2), in contrast to ἀθάνατα which designates immortal beings, such as the gods (DK 31 B147), primary stuffs (DK 12 B3), and celestial bodies (DK 24 A12). Most of the subjects examined in Alcmaeon's treatise are indeed microcosmic structures and processes: health and disease, the substance and origin of semen, and the formation and nourishment of the embryo. Hence the insertion of a comma in the middle of the asyndeton that some scholars make presents Alcmaeon as dealing with the latent level of reality and focusing on beings that are born, grow up, and perish.

Alcmaeon's reference to the latent level of reality presupposes another realm that is manifest. This realm should be the world of things and processes that can be seen clearly and analysed with some certainty. However, there were different views as to its significance in elucidating what is hidden. Heraclitus, for instance, believes that it provides evidence of lower validity (DK 22 B54) and so can be deceptive, since even Homer was unable to grasp a children's riddle about manifest things (DK 22 B56). Other thinkers suggest that "signs" or "tokens" help us to interpret invisible structures (τεκμαιρόμεσθα τοῖς παροῦσι τὰ φανῇ, Euripides, fr. 574, ed. Kannicht). Applications of this idea can be found in early philosophical and scientific writings, which often assert that what is apparent and familiar is the starting point to gain some understanding of what is hidden and vague. Herodotus, for example, argues that the length and course of the Nile are symmetrical to its counterpart in Europe, the Danube, thus drawing conclusions on the unknown nature of a river by means of data that are available to him (Herodotus, 2.33). In a similar vein, the author of *On Regimen* (1.11) attempts to show how the characteristic activities of each craftsman resemble a series of macrocosmic and microcosmic processes and how apparent oppositions are different aspects of the same process, and the author of *On Ancient Medicine* (22) considers objects outside the

body in order to illustrate the structure and functioning of its internal organs.¹¹ Alcmaeon can be interpreted as concurring with these thinkers in that he takes into account the data collected from the sensory organs in order to understand the realm of invisible structures and mortal beings.

Gemelli Marciano proposes a different interpretation.¹² She omits the comma that divides the asyndeton into two parts and asserts that the second part depends on the preceding part rather than being coordinated with it, thus offering the following translation: “about things that are invisible concerning the mortals the gods have clarity”. She suggests that the invisible structures refer to the interior of the body and the various diseases that are known to the gods but are not perceptible to humans.¹³ Sections of Hippocratic treatises provide parallels for the difficulties in understanding internal functions and non-manifest diseases (οἱ τὰ ἀφανέα νοσέοντες, *On the Art*, 11; cf. Herodotus, 2.84),¹⁴ and stress the importance of the doctor’s judgement, which is based on the proper evaluation of signs (*On the Art*, 11–12; *On Winds*, 1; *On Diseases*, 4.55).¹⁵ On this reading, Alcmaeon presents his treatise as the record of a speech of instruction offered to a group of students. After first underlining the difficulties in acquiring secure knowledge in medical issues, Alcmaeon seems to assert that these problems can be overcome with the appropriate teaching, which can be found in his discourse.

A problematic aspect of this interpretation is the construal of the asyndeton. It would be more natural to assume a dittography,¹⁶ thus reading “concerning non-manifest mortal things” (περὶ τῶν ἀφανέων {περὶ τῶν} θνητῶν), rather than a repetition of “concerning”, which is quite awkward in Greek (even if we accept the interpretation of Gemelli Marciano, such a construal is a *hapax*). Regardless of this textual point, there is no evidence that Alcmaeon had his own circle of disciples or that he acquired a reputation as a medical theorist or seer-doctor in Magna Graecia in contrast to Pythagoras, Parmenides, and Empedocles.¹⁷ Alcmaeon’s absence from the extant part of the doxography on the aetiology of disease preserved in the *Anonymus Londinensis* and his exclusion from Galen’s list of doctors from Italy (Philistion, Empedocles, Pausanias, and their disciples who are contrasted with the medical groups of Cos and Cnidos) indicate that his reputation was not primarily that of a medical theorist.¹⁸ We cannot, of course, dismiss the various reports about his strong interest in life sciences and exclude the possibility that he trained some students in Croton, which gained a reputation for its excellent doctors (Herodotus, 3.131), but medical issues are not his sole concern. The extant sources show a wide range of interests that are not limited to the interior of the body, but are extended to animals, plants, celestial bodies, and even principles. For this very reason, Alcmaeon is often mentioned along with the protagonists of early Greek philosophy, and his doctrines are examined in the *Metaphysics* and *On the Soul* (DK 24 A3, A12), as well as in the Theophrastean doxography (DK 24 A4–10, A13–14, A17).

Alcmaeon versus the Pythagoreans?

Let us now turn to the scanty evidence concerning the identity of Alcmaeon’s addressees. All of them are among the numerous Pythagoreans listed by Iamblichus

at the end of *On the Pythagorean Life*, but two names are probably misspelled in the catalogue: a Brontinus and a Leon are included among the thirty-eight Pythagoreans from Metapontum, an important Pythagorean centre known for its cult of Apollo and its close links with Croton,¹⁹ and a Bathylaus is found among the seven Pythagoreans from Poseidonia, which is not far away from Croton (DK 58 A1). Indeed, the name Bathyllus is recorded in Magna Graecia, and the name Leon is quite widespread in the same region.²⁰ It is thus reasonable to assume that these figures were known in Alcmaeon's hometown. They probably shared a set of common beliefs and formed a Pythagorean group to which Alcmaeon had some personal or philosophical relationship.

We possess no further pieces of information concerning Leon and Bathyllus (perhaps because they merely adopted the Pythagorean lifestyle without contributing to some intellectual field), but Brotinus seems to have established a close connection with Pythagoras himself.²¹ Moreover, Clement of Alexandria reports that, according to Epigenes, a grammarian of Hellenistic era who appears as an expert in poems circulating under Orpheus' name, Brotinus composed two works at least:

It is said that the oracles attributed to Musaeus were composed by Onomatocritus, Orpheus' *Mixing-Bowl* by Zopyrus of Heraclea, and the *Descent into Hades* by Prodicus of Samos. Ion of Chios in the *Triads* reports that Pythagoras also attributed some works to Orpheus. But Epigenes in *On the Poetry Ascribed to Orpheus* says that the *Descent into Hades* and the *Sacred Account* are works of Cercops the Pythagorean, and the *Robe* and the *Physics* are works of Brontinus.²²

The authorship of the aforementioned writings was a controversial issue in antiquity, as the fullest known catalogue of Orphic poems in the *Suda* confirms: Brotinus is credited with the *Physics* (Φυσικά), but the *Robe* (Πέπλος) and the *Net* (Δίκτυον) are attributed either to the shadowy Zopyrus of Heraclea or to Brotinus (DK 17 A4). However, if the reports of Epigenes and the Byzantine encyclopaedia contain even a part of the truth, it can be concluded that Brotinus represented the religious and mystical facet of Pythagoreanism and was connected with the Orphic circles of Magna Graecia.²³ In his monograph *The Orphic Poems*, West suggests that the *Net* probably describes the gradual formation of living beings as the knitting of a net, an image which indicates that the soul is air filling the bodily parts (*Orphic Fragment*, 404, ed. Bernabé = Aristotle, *On the Generation of Animals*, B 1, 734a16–20).²⁴ West also believes that the *Robe* contains an early version of an Orphic rhapsody which describes a weaving process that produced Persephone's mantle as symbolising the seasonal decoration of the earth with flowers and crops (*Orphic Fragment*, 407, ed. Bernabé = Clement, *Stromata*, 5.8.49–50). In a more focused study, Gagné argues that the *Physics* can be reconstructed from two Orphic fragments that combine theogonic and anthropogonic material with a theory of the soul as wind which enters into the body when we breathe (*Orphic Fragment*, 421, 802, ed. Bernabé).²⁵

How, then, can these interests be related to what we know about Alcmaeon? The fact that Alcmaeon mentions some shadowy figures associated with Pythagoreanism in his incipit does not necessarily presuppose advocacy of their lifestyle or agreement with their ideas. We cannot, of course, exclude the possibility that Alcmaeon dedicated his treatise to them as a matter of admiration or gratitude, but other possibilities should be examined.²⁶ It has been suggested by Vlastos, for instance, that Alcmaeon was trying to persuade them to adopt his views, thus offering a sort of instruction, like Empedocles.²⁷ According to Diogenes Laertius, Empedocles addressed the whole of the *On Nature* to Pausanias, his alleged student and lover (“and you Pausanias, son of wise Anchites, hear me”, DK 31 B1). The extensive surviving extracts from Empedocles’ poem do indeed show a regular use of the second-person singular, as Pausanias is instructed in the complex workings of the cosmic cycle and the emergence of life forms. Hence Empedocles’ poem has a rhetorical goal, trying to persuade his addressee of a novel interpretation of reality through reasoning and direct appeal to observable evidence. What sort of instruction is preserved in Alcmaeon’s treatise is an issue worth exploring: it may include an exhortation, it may be structured as an exposition of a topic, or it may reflect a contest which first took place during a private or public debate and then was presented as Alcmaeon’s formal position concerning current ideas in a wider audience. The following points can be cited to support the third possibility.

First and foremost, the author’s self-identification as “Alcmaeon of Croton” suggests that he intends to establish contact with a public which is not limited to his hometown. The structure of his opening statement conforms to some extent to the conventional patterns of the incipits of early philosophical and scientific writings, although there was no uniformity as to how they commenced.²⁸ An early Greek prose author usually introduces himself by mentioning his name, place of origin, and/or father’s name (Ἀλκμαίων Κροτωνιήτης . . . Πειρίθου υἱός; cf. Herodotus, 1.1; Thucydides, 1.1; *FGrH* 555, fr. 2; a comparison between incipits of contemporary prose authors, excluding medical writers, can be found in Table 1.2). He also formally states that his account begins by using the demonstrative pronoun and a verb of saying or writing (τάδε ἔλεξε; cf. Thucydides, 1.1; *FGrH* 1, fr. 1a; *FGrH* 555, fr. 2).²⁹ By using this formula, the so-called “seal” (σφραγίς), a prose author could assert his responsibility for and ownership of a specific work.³⁰ After declaring that his account begins, a prose author normally makes brief remarks concerning the scope and subject matter of his work, the validity and limitations of his account, and the method adopted, as can be seen in the incipits of Heraclitus (DK 22 B1), Ion of Chios (DK 36 B1), and Diogenes of Apollonia (DK 64 B1). What is not attested in the surviving prefaces is Alcmaeon’s combination of a verb of speaking with indirect object datives (τάδε ἔλεξε . . . Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ), since other prose authors who use a verb of saying or writing in their incipit do not specify addressees (Thucydides, 1.1; *FGrH* 1, fr. 1a; *FGrH* 555, fr. 2) and those opening sections of poems that do mention addressees introduce them in the vocative (Hesiod, *Works and Days*, 10; Theognis, 19; Pindar, *Pythian Ode*, 5.5). Does this unique formula imply that Alcmaeon wished to respond to Brotinus, Leon, and Bathyllus?

Table 1.2 The formula of incipits of prose authors (see Texts on pp. 22–3)

	1	2	3	4	5	6	7	8
	<i>Alcmaeon</i>	<i>Hecataeus</i>	<i>Antiochus</i>	<i>Herodotus</i>	<i>Thucydides</i>	<i>Heraclitus</i>	<i>Ion</i>	<i>Diogenes</i>
Name	✓	✓	✓	✓	✓			
Father’s name	✓		✓					
Place of origin	✓	✓		✓	✓			
Indication of beginning	✓	✓	✓	✓			✓	
Addressee(s)	✓							
Method			✓		✓	✓		✓
Scope				✓				
Subject matter	✓		✓	✓	✓	✓	✓	
Criticism	✓	✓				✓		

It is worth noting that the opening section of prose works sometimes deals with false beliefs or rival ideas.³¹ Three examples from contemporary authors who represent various intellectual fields can be considered:

Hecataeus of Miletus speaks as follows. I write down these things, as they seem to me to be true. For the stories of the Greeks are manifold and ridiculous, as they seem to me.³²

Although this account holds forever, humans always prove to be uncomprehending, both before they have heard it and when once they have heard it. For although all things happen in accordance with this account, humans resemble those without experience, even when they experience such words and deeds as I set forth, distinguishing each according to its nature and telling how it is. But the rest of humans fail to notice what they do awake, just as they forget what they do asleep.³³

The authors of the work entitled *Cnidian Sentences* have correctly described the experiences of patients in individual diseases and the issues of some of them. So much even a layman could correctly describe by carefully enquiring from each patient the nature of his experiences. But they have omitted much of what the doctor should consider first without the patient's telling. This knowledge varies in varying circumstances and in some cases is important for the interpretation of symptoms. And whenever they interpret symptoms with a view to determining the right method of treatment in each case, my judgement in these matters is quite different from their exposition. And I censure them not only for this reason but also because they use remedies limited in number. For most of their prescriptions, with the exception of acute diseases, were to administer purgatives and to give to drink whey and milk at the proper season.³⁴

We do not possess what follows the preface of the *Genealogies*, but Hecataeus thinks that it is necessary to place his work in a broader tradition of writing about the Greek gods and heroes. The starting point of his own account is that other experts, such as Homer and Hesiod who are often criticised (cf. *FGrH* 1, frs. 18b, 19, 25, 27), failed to produce a valid explanation. By stressing the subjectivity of his judgements and setting them against current accounts, Hecataeus replaces the external authority of the Muses (the source of inspiration and the guarantee of truth in traditional narratives) who may lie with the *persona* of the mythographer.³⁵ Hecataeus thus professes to offer a more veridical account than the various stories in circulation. In a similar vein, Heraclitus attacks the majority of humans, who are unable to comprehend his discourse. As we know from a set of fragments, Heraclitus' main targets are the didactic authorities of archaic era, including Homer, Hesiod, Archilochus, Hecataeus, Xenophanes, and Pythagoras (DK 22 B40, B42, B57–8, B81, B129), who failed in the formulation of a coherent system that would elucidate the essential unity of all things (DK 22 B108). Moreover, Hippocratic authors, especially those who are interested in the workings of the cosmos, often refer to current philosophical and medical doctrines in

the introductory sections of their treatises. Although they sometimes agree with and build on the ideas of their predecessors and contemporaries (*On Flesh*, 1; *On Regimen*, 1.1),³⁶ polemical references are well documented. The authors of *On Ancient Medicine* and *On the Nature of Man*, for instance, attack the intrusion of philosophical postulates into their discipline and reject the deductive method as an effective way of treating disease (*On Ancient Medicine*, 1; *On the Nature of Man*, 1).³⁷ The author of *On Regimen in Acute Diseases* is even more explicit. He criticises those who composed the *Cnidian Sentences*, a collection of medical treatises that has not survived, for not investigating into the symptoms that a doctor should know beforehand and not employing a sufficient number of remedies (*On Regimen in Acute Diseases*, 1–3).³⁸ His critical remarks reflect the antagonism between the Coan and Cnidian doctors, namely the conflict between those who are engaged in a prognostic and patient-oriented type of medicine and those who endorse a diagnostic and disease-oriented type of medicine.³⁹ These pieces of evidence encourage us to consider the possibility that Alcmaeon criticises rival ideas before expounding his system.

If the order in which Alcmaeon names his addressees is significant, then the leading figure in this Pythagorean group is Brotinus. According to the evidence cited above, he appears to have composed sacred texts and had personal links with Pythagoras. It is thus reasonable to infer that Brotinus was regarded as a charismatic personality having an authority transcending common experience. He probably dealt with the hidden facets of reality (e.g. the interpretation of divine signs and religious taboos, the origin and guilt of mankind, the post-mortem fate of the soul) and thought that knowledge is acquired through initiation into the Orphic mysteries. Cornford explains how this way of gaining knowledge is connected with beliefs regarding the purification of the soul:

In the process of initiation there were two stages: a preliminary purification, which might be merely ceremonial, fitting the candidate to proceed to the second stage, the revelation of symbolic cult-objects and ritual dramas. To witness these was to assure oneself of a “better lot” in the other world. The revelation was accompanied by some instruction in the meaning of the sacred things seen and enacted. “Blessed is he who has seen these things; the uninitiate shall never have a like portion after death” (*Hymn to Demeter*, 480). The entire procedure rests on the belief that there is another world, an invisible world of gods and spirits, where the individual soul will have its place after death. Revelation is the only means of access to knowledge of this world; the initiates claimed to be “those who know” (οἱ εἰδότες) or “the wise” (οἱ σοφοί).⁴⁰

To use the classical distinction of Cornford between empiricism and inspiration, Brotinus represents the marvellous and mysterious world of the religious expert who is associated with the great master.⁴¹ He seems to be a sort of priest, diviner, or seer who can foretell future events and offer direct access to things which are beyond human comprehension (cf. *On Regimen*, 1.12;⁴² οὐ μάντις εἰμὶ τὰ φανῆ

γνῶναι σαφῶς, Euripides, *Hippolytus*, 346; ἃ δὲ μὴ δῆλα τοῖς ἀνθρώποις ἐστί, πειρᾶσθαι διὰ μαντικῆς παρὰ τῶν θεῶν πυνθάνεσθαι, Xenophon, *Memorabilia*, 1.1.9).

This way of gaining and diffusing knowledge is incompatible with the empiricist epistemology of Alcmaeon, which is founded on the assumption that humans can draw tentative inferences by evaluating sensory data, as his rational explanation of various microcosmic processes shows (cf. ἐγὼ δὲ τοιαῦτα μὲν οὐ μαντεύσομαι, σημεία δὲ γράφω οἷσι χρή τεκμαίρεσθαι τούς τε ὑγίεας ἐσομένους τῶν ἀνθρώπων καὶ τοὺς ἀποθανουμένους, *Prorrhetic*, 2.1).⁴³ In Alcmaeon's view, only the gods can attain clear knowledge of the latent level of reality, while humans cannot reach their level even if they perform rituals and employ sacred texts. What they are able to do is to examine the changeable world of mortal beings with the aid of their sensory organs, thus limiting enquiry to the deceptive indications of observable evidence. If Alcmaeon highlights his divergence from a Pythagorean group as to the knowledge of invisible structures, the use of the aorist along with the demonstrative pronoun indicates that Alcmaeon's treatise is presented as the written record of an oral discourse. We can thus punctuate the fragment by dividing the asyndeton into two separate parts with a colon: the first part indicates the point of his disagreement with the Pythagoreans in question ("Alcmaeon of Croton, the son of Peirithus, said these words to Brotinus and Leon and Bathyllus concerning things that are non-manifest: . . ."),⁴⁴ and the second part signifies the beginning of his response ("the gods possess clear knowledge concerning things that are mortal, but insofar as humans may judge from signs").

Alcmaeon's approach

One of the main concerns of early Greek thinkers is to define the nature, extent, and sources of human knowledge, as well as to establish whether it is reliable or not.⁴⁵ A comparison is often drawn between human and divine knowledge in order to contrast the constraints and defects of the former to the completeness and superiority of the latter.⁴⁶

Such a comparison can be found in the statement at the end of the fragment, which draws a sharp distinction between the cognitive capacities of gods and humans (σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι). The phrase ὥς δὲ ἀνθρώποις τεκμαίρεσθαι can be taken in an adverbial restrictive sense ("but insofar as humans may judge from signs") or as a dative of relation ("but for humans to judge from signs"). Some scholars, however, supply a verb which specifies the limits of human knowledge, such as δέδοται ("but as humans <it is given> to judge from signs") or ἔξεστιν ἡμῖν ("but as humans <it is possible for us> to judge from signs").⁴⁷ A reference to the need rather than the capacity of humans to conjecture is also possible, thus assuming that χρή or δεῖ is implied ("but as humans <one must> judge from signs").⁴⁸ What follows is a matter of speculation, but another formal declaration that Alcmaeon is beginning his account cannot be excluded (cf. *FGrH* 1, fr. 1a). Hence Wachtler suggests the supplement ὧδε ἐγὼ ἐρέω ("I will say thus").⁴⁹ Another possibility is that Alcmaeon explains how

humans draw tentative inferences, since the verb τεκμαίρομαι is often accompanied by a dative specifying the ground on which a judgement or conjecture is founded: τὰ ἀφανῆ τῷ λογισμῷ (“things that are non-manifest through reasoning”; cf. *On Winds*, 3);⁵⁰ τοῖς ἐμφανέσι τὰ μὴ γινωσκόμενα (“what is unknown from the apparent things”; cf. Herodotus, 2.33).⁵¹ If this is the case, the following lines might have dealt with Alcmaeon’s epistemology: the structure and workings of each sensory organ, the transmission of data into the brain through a network of “channels”, and the formation of knowledge on the basis of signs (DK 24 A5).

Regardless of how one supplements the incomplete statement, Alcmaeon states that divine knowledge is characterised by σαφήνεια and so implies that human understanding is associated with darkness and obscurity (cf. DK 31 B122.4). The cognates of σαφήνεια, especially the adverb σάφα and the adjective σαφής, are usually coupled with a verb that designates clear and certain knowledge (οἶδα, γινώσκω, ἐπίσταμαι). They signify (a) knowledge of the precise facts or the exact truth (*Iliad*, 2.252; *Odyssey*, 3.89; Euripides, *Children of Heracles*, 840) and (b) a direct and thus reliable information or understanding of things, often based on first-hand observation (*Iliad*, 7.226–7; Pindar, *Nemean Ode*, 11.42–4; Thucydides, 1.22). Hence Alcmaeon commences his treatise by declaring that “the gods possess clear knowledge” περὶ τῶν θνητῶν, which can be taken in a restrictive (“concerning mortals” = humans) or more general (“concerning things that are mortal” = all beings and processes which are subject to death) sense. The latter meaning is preferable given the wide range of topics examined in Alcmaeon’s treatise. Seen from this perspective, “immortals” can grasp the changeable world of “mortals” and the various phenomena associated with living beings. Humans, on the other hand, have no direct and secure knowledge of this domain, and their judgements can be made only on the basis of signs. What is the function of this assertion?

It can be argued that Alcmaeon is warning his audience of the doubtful validity of the statements made in his treatise. Inasmuch as he is mostly dealing with aspects of living things that can be hardly examined through the sensory organs, the results of his “enquiry into nature” are provisional and uncertain. Alcmaeon not only announces that he is about to tackle topics that escape human comprehension to a great extent but also invites his audience to consider the discourse with the appropriate caution. A request to use their own powers of comprehension in order to assess Alcmaeon’s inferences drawn from observation may well be made in the following lines, just as Parmenides (DK 28 B7) and Empedocles (DK 31 B2–3) advise their audience to judge their demonstration before expounding a rational account of reality.

Alcmaeon is aware of the vague nature of his research field and the limitations imposed by cognitive faculties but is not as pessimistic as Xenophanes, who declares that humans cannot attain a secure knowledge of reality:

And the clear truth (καὶ τὸ μὲν οὖν σαφές) no man has seen, nor will there be anyone who knows both about gods and about all the things I speak of. For even if one succeeded the most in speaking of what has been brought to pass still he himself will not know. But opinion is allotted to all.⁵²

Although it is impossible to gain a full understanding of beings and processes that are mortal, we can assess the various signs which are sent to us through the sensory organs and then are transmitted to the brain, the coordinating centre of mental functions (DK 24 A5). The end of this cognitive process can be described as τεκμαίρεσθαι, namely “to judge something from signs” (Pindar, *Olympian Ode*, 8.3; Aeschylus, *Prometheus Bound*, 336; Herodotus, 2.33). In its earliest use, the term τέκμαρ or τέκμωρ means “boundary”, “end”, “goal” (*Iliad*, 13.20; *Odyssey*, 4.473; Pindar, fr. 165, ed. Snell-Maehler), and, inasmuch as it normally signifies a fixed mark or an ordained thing, it also constitutes a “token” or “sign of recognition” of something (*Iliad*, 1.526; Pindar, *Nemean Ode*, 11.44; Aeschylus, *Agamemnon*, 272). Its cognate τεκμήριον (Aeschylus, *Eumenides*, 662, *Suppliants*, 53–4; Herodotus, 2.43) is widely used by authors who attempt to establish the validity of their statements with undeniable evidence, thus being synonymous to σημεῖον (DK 64 B4; Thucydides, 1.6) and μαρτύριον (Aeschylus, *Agamemnon*, 1095; Herodotus, 2.22). By presenting the results of his own evaluation of signs, Alcmaeon proceeds from the observation of the visible structures to the understanding of the latent level of reality. This empirical method of enquiry asserts that knowledge comes primarily from experience rather than divine revelation.

Examples of this approach can be found in the first historiographers, who adduced evidence in order to support their conclusions as to the precise facts or the exact truth. Herodotus often refers to “clear knowledge” as what can be confirmed to be the case on the basis of personal inspection. For instance, he travels from place to place in order to confirm whether Heracles is regarded a god:

And wishing to gain clear knowledge of these things (καὶ θέλων δὲ τούτων περὶ σαφές τι εἰδέναι) from a point where this was possible, I took ship to Tyre in Phoenicia because I had heard that there is a holy temple of Heracles there. And I saw it richly equipped . . . I also saw another temple of Heracles in Tyre, dedicated to the Thasian [sc. Heracles]. Then I arrived at Thasos where I also found a temple of Heracles built by the Phoenicians . . . What I have discovered by enquiry clearly shows (τὰ μὲν νυν ἱστορημένα δηλοῖ σαφέως) that Heracles is an ancient god.⁵³

Herodotus thus presents facts based on his own “sight, judgement, and enquiry” (Herodotus, 2.99), which are distinguished from what one has heard from indirect sources, such as reports and myths.⁵⁴ It is not always possible to present the results of historical research with precision, especially when one has to deal with the distant past:

Regarding the events that preceded this period and those of a still earlier date, it was impossible to get clear information (σαφῶς μὲν εὔρεῖν) on account of the lapse of time. But judging from evidence which I can trust after very careful enquiry (ἐκ δὲ τεκμηρίων ὧν ἐπὶ μακρότατον σκοποῦντί μοι πιστεῦσαι), I think they were not really great events, either regarding the wars then waged or in other respects.⁵⁵

Thucydides makes a sharp distinction between the current events of the Peloponnesian war, of which he could have direct and secure knowledge, and preceding events, which took place long ago such that he could not investigate them in depth. The great value of the tentative inferences drawn from reports is that they help Thucydides to conclude, after much consideration, that the clash between the Athenians and the Spartans was the most remarkable event in Greek history. This assertion is contrasted with σαφῶς εὐρεῖν, namely the knowledge acquired from first-hand observation.

A similar concern for carefully examining a series of data pertaining to the body and its surroundings can be documented in the earliest Hippocratic treatises. The term τεκμήριον and its cognates refer to the signs from which an expert can draw inferences concerning the features of individuals and stuffs, the causes and development of disease, and biological functions.⁵⁶ The author of *On the Nature of Man*, for instance, promises to prove that the proposed bodily constituents retain their ontological status and to offer proofs for the reasons of their mutual transformations (ἀποδείξω . . . καὶ τεκμήρια παρέξω, *On the Nature of Man*, 2),⁵⁷ whereas his opponents offer unconvincing proofs (*On the Nature of Man*, 1).⁵⁸ A more systematic approach is adopted by the author of *On Airs, Waters, Places* who often supplies his claims as to how the climatic and topographical conditions of a region affect the health and character of its inhabitants with pieces of strong evidence (μέγα δὲ τεκμήριον τούτων, *On Airs, Waters, Places*, 16).⁵⁹ He thus gives doctors instructions as to how to predict the sorts of diseases they may find in different places, whereas other Hippocratic authors are interested in detecting and curing disease. A characteristic example is provided by the author of the *Prognostic*, who argues that a skilled doctor can understand whether individuals will survive or die by considering a combination of various symptoms, such as fevers, vomiting, and pains (τεκμαίρεσθαι τοῖσι σύμπασι σημείοισιν, *Prognostic*, 24).⁶⁰

In a similar vein, Alcmaeon can be found adducing observable evidence to support his inferences concerning the changeable world of mortal beings. Although we do not know his methodological assumptions and the conditions under which he performed “enquiry into nature”, we may note three interrelated points: (a) the use of observation, (b) the role of analogy, and (c) the search for causal relations.

The use of observation is crucial in understanding the structure and functioning of living beings. The references to the workings of each sensory organ (DK 24 A5), the peculiar features of the genitals of mules (DK 24 B3), and the external factors of disease (DK 24 B4) indicate that Alcmaeon inspected the objects of his enquiry to the extent that the senses allowed him to draw some provisional conclusions. The principle of this approach is neatly summarised in the statement “experience is the beginning of learning” (PMG 125), which is preserved under the name of Alcman, the Doric equivalent to “Alcmaeon”, but it may well derive from the Crotoniate thinker rather than the lyric poet.⁶¹ Although most of Alcmaeon’s observations are rudimentary and concern external features of living beings, some examination of their interior seems to be part and parcel of his project. More specifically, the mention of a network of “channels” which connects

the brain, the coordinating centre of mental functions, with the sensory organs (DK 24 A5) might have been verified by means of anatomical investigation, albeit not performed in a systematic manner (DK 24 A10). It is precisely the interior of living beings that shows the constraints of human research and the perplexity of the objects under investigation, especially in a period during which thinkers were not equipped with special instruments to observe microscopic structures.

A good way to overcome these hurdles is to use analogy in order to illuminate the correspondence between systems that have similar structure and functioning but cannot be understood equally: one is visible and known, while the other is invisible and unknown. By focusing on their common features, we can explain the hidden aspects of the latter from the familiar aspects of the former. Alcmaeon, for instance, describes health and disease in political terms. The changeable state of the human body depends on how power is distributed among its opposing constituents (hot and cold, wet and dry, sweet and bitter), which participate in its administration like the citizens of a polis whose antagonistic or collaborative tendencies affect its functioning (“equality of shares of the powers” versus “monarchy”, DK 24 B4).⁶² Moreover, the embryo’s capacity to draw nourishing ingredients is likened to a sponge equipped with holes through which air or liquid may pass (DK 24 A17). In both cases, invisible structures are understood by observing visible structures and applying familiar imagery and concepts to the microcosm.

Alcmaeon also had a deep interest in providing explanations as to the causal norms which govern microcosmic processes. To cite a characteristic example, he offers the earliest known aetiology of disease which is based on the interactions between the bodily constituents (DK 24 B4). His reasoning can be summarised as follows: first, disease arises due to the supremacy of a power, in particular when the body becomes too hot or too cold; second, this disequilibrium is occasioned either by surfeit or lack of foodstuffs or from external factors, including water of a particular kind, environmental conditions, exertions, hardship, and other similar causes; third, disease manifests itself in certain bodily parts, such as the blood, the marrow, and the brain. Alcmaeon thus accounts for the elemental changes in the body with reference to the diet of an individual, his/her physical activities, and the climatic and topographical conditions of his/her place. This systematic effort to use a range of data in order to explain the functioning of a microcosmic structure is founded on the belief that humans can judge from signs.

Conclusion

On the basis of the interpretation proposed above, we may distinguish between two target groups in Alcmaeon’s treatise: a narrow and specialised audience and an open and less specialised audience. The former audience includes individuals, namely the members of a Pythagorean group who are active in the same antagonistic milieu as Alcmaeon, although their relationship is not clearly specified in the incipit. One may suppose that they are fellows who exchange ideas

with Alcmaeon, students who attend his exposition, or opponents whose views are criticised. The last option is likely for polemical references are documented in the incipits of contemporary prose authors, and, apart from the debates in public councils and law-courts, contests between “wise men” (sophists, doctors, orators) who professed to offer a superior type of knowledge and were trying to attract students were common in the fifth century BC.⁶³ Thus Brotinus and his associates might have been engaged in a private or public debate with Alcmaeon, displaying their expertise in topics of common interest. It is reported that Pythagoras himself offered a series of public speeches when he arrived in Croton in order to convince locals to follow a moral way of life (DK 14 A8a), and his disciples should have also tried to propagate and defend the Pythagorean ideas. Traces of the contest between Alcmaeon and three Pythagoreans are preserved in the incipit, which commences with Alcmaeon’s response to them and is followed by an exposition of his system. The extant sources suggest that the disagreement as to the source of knowledge was the starting point and not the focus of his treatise, which deals with a range of issues. Alcmaeon also has a broader and less specialised audience in mind, whoever might attend these contests between “wise men” or pick up a copy of his treatise, whom Alcmaeon would like to get to favourably compare his arguments against the Pythagoreans in question and contrast their method in acquiring knowledge.

Texts

- 1 Ἀλκμαίων Κροτωνιήτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀφανέων, περὶ τῶν θνητῶν σαφήνειαν μὲν θεοὶ ἔχοντι, ὥς δὲ ἀνθρώποις τεκμαίρεσθαι (DK 24 B1).
- 2 Ἐκαταῖος Μιλήσιος ὧδε μυθεῖται· τάδε γράφω, ὥς μοι δοκεῖ ἀληθέα εἶναι· οἱ γὰρ Ἑλλήνων λόγοι πολλοὶ τε καὶ γελοῖοι, ὥς ἐμοὶ φαίνονται, εἰσὶν (*FGrH*, 1 fr. 1a).
- 3 Ἀντίοχος Ξενοφάνεος τάδε συνέγραψε περὶ Ἰταλίας ἐκ τῶν ἀρχαίων λόγων τὰ πιστότατα καὶ σαφέστατα (*FGrH* 555, fr. 2).
- 4 Ἡροδότου Ἀλικαρνησέος ἱστορίας ἀπόδεξις ἦδε, ὥς μήτε τὰ γενόμενα ἐξ ἀνθρώπων τῷ χρόνῳ ἐξίτηλα γένηται, μήτε ἔργα μεγάλα τε καὶ θωμαστά, τὰ μὲν Ἑλλήσι, τὰ δὲ βαρβάροισι ἀποδεχθέντα, ἀκλεᾶ γένηται, τὰ τε ἄλλα καὶ δι’ ἣν αἰτίην ἐπολέμησαν ἀλλήλοισι (Herodotus, 1.1).
- 5 Θουκυδίδης Ἀθηναῖος ξυνέγραψε τὸν πόλεμον τῶν Πελοποννησίων καὶ Ἀθηναίων, ὥς ἐπολέμησαν πρὸς ἀλλήλους, ἀρξάμενος εὐθὺς καθισταμένου καὶ ἐλπίσας μέγαν τε ἔσεσθαι καὶ ἀξιολογώτατον τῶν προγεγενημένων, τεκμαιρόμενος ὅτι ἀκμάζοντές τε ἦσαν ἐς αὐτὸν ἀμφοτέρω παρασκευῇ τῇ πάσῃ καὶ τὸ ἄλλο Ἑλληνικὸν ὄρων ξυνιστάμενον πρὸς ἑκατέρους, τὸ μὲν εὐθύς, τὸ δὲ καὶ διανοούμενον (Thucydides, 1.1).
- 6 τοῦ δὲ λόγου τοῦδ’ ἐόντος αἰεὶ ἀξύνετοι γίνονται ἄνθρωποι καὶ πρόσθεν ἢ ἀκοῦσαι καὶ ἀκούσαντες τὸ πρῶτον· γινομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε ἀπείροισιν εἰκόασι, πειρώμενοι καὶ ἐπέων καὶ ἔργων τοιούτων, ὁκοίων ἐγὼ διηγέσθαι κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων ὅπως ἔχει. τοὺς

δὲ ἄλλους ἀνθρώπους λανθάνει ὁκόσα ἐγερθέντες ποιοῦσιν, ὅκωσπερ ὁκόσα εὖδοντες ἐπιλανθάνονται (DK 22 B1).

- 7 ἀρχὴ δέ μοι τοῦ λόγου· πάντα τρία καὶ οὐδὲν πλεόν ἢ ἔλασσον τούτων τῶν τριῶν. ἐνὸς ἐκάστου ἀρετὴ τριάς· σύνεσις καὶ κράτος καὶ τύχη (DK 36 B1).
- 8 λόγου παντὸς ἀρχόμενον δοκεῖ μοι χρεὼν εἶναι τὴν ἀρχὴν ἀναμφισβήτητον παρέχεσθαι, τὴν δὲ ἐρμηνείαν ἀπλὴν καὶ σεμνὴν (DK 64 B1).

Notes

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- 1 Ed. Diels-Kranz (1951–2) 24 B1 [henceforth DK] = Diogenes Laertius 8.83 [henceforth D. L.].
- 2 On Callimachus, see Pfeiffer (1968: 123–51). On Demetrius of Magnesia, see Mejer (1981). Diogenes Laertius, the richest source regarding the prefaces of early philosophical writings, quotes the incipits of Pherecydes (D. L. 1.119); Anaxagoras (D. L. 2.6); Empedocles (D. L. 8.54, 60–1); Philolaus (D. L. 8.85); and Diogenes of Apollonia (D. L. 6.81, 9.57).
- 3 According to Mansfeld (1995), the obscurities to be found in the incipits of Heraclitus, Parmenides, and Empedocles are intentional for their audience was a small and select group rather than a wide public. Hence they introduce their topic in such a way as to attract attention and create suspense, a method criticised by Diogenes of Apollonia in his opening statement (DK 64 B1). Mansfeld makes no reference to Alcmaeon, but some elements of obscurity can be traced in his incipit too. Whether this obscurity is intentional or due to our inability to solve the textual problems is debatable. In a similar study, Gemelli Marciano (2007) focuses on Heraclitus, Alcmaeon, Anaxagoras, and Diogenes of Apollonia. She draws attention to the oral transmission of ideas in archaic Greece and suggests that the incipit of philosophical and medical texts is of crucial importance since it indicates, not only the nature of each text, but also the kind of the audience to whom this text is designed. She thus distinguishes between two kinds of audience and respective incipits. If the audience is a limited one, the incipit is elitist and not easily comprehensible to the non-experts. If the audience is a large group of educated laymen, the incipit consists of portentous sentences that allow the speaker to establish his authority over the audience.
- 4 This proposal can be found in the unpublished textual notes of Reiske on Diogenes Laertius and is mentioned by Wachtler (1896: 34). On Reiske’s manuscript, see Dorandi (2013: ix–x).
- 5 Wachtler (1896: 34–8). Cf. Barnes (1982: 137). In the IAPS Conference Simon Trépanier suggested that I remove the second part of the asyndeton at the end of the fragment and distinguish between the domains of divine and human knowledge, thus reading: “the gods possess clear knowledge concerning things that are non-manifest, but insofar as humans may judge from signs concerning things that are mortal”.
- 6 Cobet (1850: 224). Cf. Zeller (1919: 600, n. 3).
- 7 Gomperz (1953: 65). This view was first formulated in Gomperz (1928).

- 8 Cf. the public lamentation of Susarion, to whom the origin of Attic comedy is ascribed:

Listen, people. Susarion, the son of Philinus, from Tripodiscus in Megara, says the following: women are an evil, but, nevertheless, fellow-citizens, one cannot live in a house without an evil. For to marry or not to marry, either is evil.

(Susarion, fr. 1, ed. Kassel-Austin, 1989)

- 9 [Hippocrates], *VM*, 1, ed. Littré (1839) I.572 = ed. Jouanna (1990) 119.4–7.
- 10 [Hippocrates], *Flat.*, 1, ed. Littré (1849) VI.90 = ed. Jouanna (1988) 103.10–12.
- 11 [Hippocrates], *Vict.*, 1.11, ed. Littré (1849) VI.486 = ed. Joly (1984) 134.21; *VM*, 22, ed. Littré (1839) I.626 = ed. Jouanna (1990) 149.15–16.
- 12 Gemelli Marciano (2007: 18–22). See also n. 3 above.
- 13 It is difficult to square this hypothesis with the known pieces of Alcmaeon's treatise, which clearly have a more general content. His medical theory, as reported in the *Placita*, deals with health and disease in general and not with specific kinds of disease (DK 24 B4). Admittedly, the emphasis on the various causes that disturb the equilibrium and the reference to the blood, the marrow, and the brain as the main loci of disease indicate that Alcmaeon might have examined how different kinds of disease arise in a section of his treatise (cf. the Arabic translation of Galen's *On Medical Experience*, 22.3, ed. Walzer (1944) 128, where Diogenes of Apollonia is credited with a treatise in which he talks about the causes and remedies of diseases in a systematic manner). A text that supports Gemelli Marciano's proposal that the phrase *περὶ τῶν ἀφανέων* is connected with the interior of the body, rather than invisible structures in general, is provided by Censorinus. In a doxographical overview of embryological doctrines, he reports that Alcmaeon put forward a sort of epistemological scepticism regarding the formation of the embryo (DK 24 A13). The rejection of the possibility of describing a tiny structure within the body could be seen as an elaboration of the introductory remarks about the limited knowledge of humans concerning invisible mortal things. However, Alcmaeon is also reported to believe that the head is first formed in the womb (DK 24 A13) and to describe the nourishment of the embryo (DK 24 A17). On these contradictory reports, see Lesky (1952).
- 14 [Hippocrates], *Art.*, 1, ed. Littré (1849) VI.2 = ed. Jouanna (1988) 237.18.
- 15 [Hippocrates], *Art.*, 11–12, ed. Littré (1849) VI.18–26 = Jouanna (1988) 237.4–241.11; *Flat.*, 1, ed. Littré (1849) VI.90 = ed. Jouanna (1988) 102.1–105.5; *Morb.*, 4.55, ed. Littré (1851) VII.604 = ed. Joly (1970) 118.24–119.17.
- 16 On two possible cases of dittography in the Epicurean section (D. L. 10.7, 13), see the notes of Dorandi (2013: 738, 743) in the critical apparatus.
- 17 The evidence for the medical interests of these thinkers varies considerably. Pythagoras is sometimes considered the inventor of a regimen suitable for athletes or even an active doctor, but this is obviously part of the various legends surrounding his charismatic personality (Burkert 1972: 292–3). Inscriptional evidence suggests that Parmenides was honoured as a seer-doctor in his hometown and was connected with a medico-religious clan (Nutton 1970). As far as Empedocles is concerned, the evidence is more substantial and derives from reliable sources, such as the author of *On Ancient Medicine* and Galen (Vegetti 1998).
- 18 Galen, *MM*, 1.1, ed. Kühn (1825) X.6.3–4.
- 19 Burkert (1972: 113–14).
- 20 Fraser and Matthews (1997: 88, 273–4).
- 21 The extant sources are inconsistent as to their relationship: Brotinus or Brontinus (the manuscripts of Diogenes Laertius, Iamblichus, and the *Suda* preserve both variants) appears as the father or husband of Theano (also called Deino or Deinono), who is already mentioned by Dicaearchus (DK 14 A8a) and is referred to as the wife, daughter, or pupil of Pythagoras (DK 17 A1; cf. *Suda*, Θ 83–4, s.v. Theano, Π 3120, s.v. Pythagoras). Brotinus is reported to come from Croton or Metapontum, like other figures surrounding Pythagoras (Burkert 1972: 112, n. 17), and appears in fictional

accounts of later origin (DK 17 A5). Moreover, we know about a letter written by Telauges, Pythagoras' son and successor, to Philolaus, which reports that the teachers of Empedocles were Hippasus and Brotinus (DK 17 A3). Diogenes Laertius, who refers to this letter thrice in order to offer biographical information concerning Empedocles, notes that, according to the historian Neanthes of Cyzicus, it is unreliable. The letter seems to have been circulating since the fourth century BC, thus showing that Brotinus appears in one of the earliest known pseudo-Pythagorean texts; see the chronological table of Thesleff (1961: 113–14). The decision of Diels-Kranz to place Brotinus among “the oldest Pythagoreans” (DK 15–20) is justifiable, since the following facts cannot be denied: (1) Brotinus is mentioned by a contemporary author who was active in the same region, (2) he had personal links with Pythagoras, and (3) he is credited with lost writings whose content is reflected in Orphic fragments.

- 22 Clement, *Strom.*, 1.21.131; published in part as DK 17 A4.
- 23 On this facet of Pythagoreanism, see Burkert (1972: 120–208).
- 24 West (1983: 10–11).
- 25 Gagné (2007).
- 26 The assumption that Alcmaeon dedicated his treatise to Pythagoreans is held by several scholars, including Zeller (1919: 596–7, n. 1), Burnet (1930: 194), Burkert (1972: 289, n. 57), and West (1983: 9), although there are no parallels in contemporary prose authors. Kranz (1961: 44) suggests that Alcmaeon refers to three friends, just as Empedocles greets his friends from Acragas (DK 31 B112.1, B114.1) and both Pindar (*Ol.*, 1.107, *Pyth.*, 3.80) and Bacchylides (*Ep.*, 3.64, 92) address Hiero of Syracuse, their patron, in their poems.
- 27 Vlastos (1953: 344–5, n. 25). Cf. Huffman (2008: 295).
- 28 Schmalzriedt (1970: 32–50).
- 29 The opening statement of a letter is usually structured in the same manner (e.g. “Amasis says the following to Polycrates”, Herodotus, 3.40; cf. Herodotus, 7.150; Thucydides, 1.129). Hippocratic authors, too, use the demonstrative pronoun in their incipits, but they provide no information as to their name, place of origin, and/or father's name ([Hippocrates], *Aër.*, 1, ed. Littré (1840) II.12 = ed. Jouanna (1996) 186.1–2; *Haem.*, 1, ed. Littré (1849) VI.436 = ed. Joly (1978) 1.1; *Morb. Sacr.*, 1, ed. Littré (1849) VI.352 = ed. Jouanna (2003) 1.1; *Nat. Mul.*, 1, ed. Littré (1851) VII.312 = ed. Bourbon (2008) 2.1–2). Whether this anonymity is intentional because a community of doctors rather than individuals present their own doctrines or is due to the canonisation of medical texts at Alexandria, a process which entails the removal of personal information in order to give unity and authority to a group of heterogeneous texts, is disputed.
- 30 On the use of the “seal”, see Kranz (1961); Fehling (1975); Calame (2004). The fact that the “seal” is placed at the end of the text as a sort of signature in some poems (*Hymn to Aphrodite*, 165–78; *Ion Eleg.*, fr. 1.5, ed. Diehl, 1949) and late prose writings (e.g. Heliodorus, *Aethop.* 10.41.4: “The composition of the Aethopian story concerning Theagenes and Charicleia ends here. It was composed by a Phoenician of Emesa, one of the descendants of the Sun, the son of Theodosius, Heliodorus”) encourages us to explore the following bold hypothesis. If Alcmaeon adopts a similar pattern in his treatise, in contrast to contemporary authors who introduce themselves at the preface, the use of the aorist along with the demonstrative pronoun indicate that Alcmaeon's discourse reaches the end and is followed by a biographical note. Thus the asyndeton seems to be the result of a confusion for we possess a fragment which contains the very beginning (“The gods possess clear knowledge concerning things that are mortal, but insofar as humans may judge from signs”) and the very end (“Alcmaeon of Croton, the son of Peirithus, said these words to Brotinus and Leon and Bathyllus concerning things that are non-manifest”) of a treatise, albeit placed in an inverted position. The mistake may be due to an Alexandrian librarian who composed a bibliographical entry, which usually contains some biographical information concerning the author along with his incipit (on this formula, see Pfeiffer 1968: 129–30). Although the Alexandrian

librarian first cites the concluding sentence in order to introduce Alcmaeon to the users of the catalogue and then preserves the opening statement of his treatise, Diogenes Laertius cites the fragment as a continuous text, for he thinks that the “seal” precedes the incipit.

- 31 On the dialectical nature of early Greek philosophy and medicine, which reflects the political organisation of ancient Greece and its antagonistic spirit, see Lloyd (1979).
- 32 *FGrH* 1, fr. 1a.
- 33 DK 22 B1.
- 34 [Hippocrates], *Acut.*, 1, ed. Littré (1840) II.224–6 = ed. Joly (1972) 36.2–17.
- 35 Bertelli (2001: 80–4).
- 36 [Hippocrates], *Carn.*, 1, ed. Littré (1853) VIII.584 = ed. Joly (1978) 188.2–6; *Vict.*, 1.1, ed. Littré (1849) VI.466 = ed. Joly (1984) 122.3–21.
- 37 [Hippocrates], *VM*, 1, ed. Littré (1839) I.572 = ed. Jouanna (1990) 118.1–119.11; *Nat. Hom.*, 1, ed. Littré (1849) VI.32–4 = ed. Jouanna (1975) 164.3–166.11.
- 38 [Hippocrates], *Acut.*, 1–3, ed. Littré (1840) II.224–44 = ed. Joly (1972) 36.2–40.1.
- 39 On their disagreement, see Lonie (1965).
- 40 Cornford (1952: 110). Cf. Burkert (1972: 120–65).
- 41 Cornford (1952: 3–155).
- 42 [Hippocrates], *Vict.*, 1.12, ed. Littré (1849) VI.488 = ed. Joly (1984) 136.5–14.
- 43 [Hippocrates], *Prorrh.*, 2.1, ed. Littré (1861) IX.8. Contemporary texts, including maxims attributed to the Pythagoreans, Parmenides’ proem, Empedocles’ *Purifications*, and the Derveni papyrus in particular suggest that there is a continuous interaction between Orphism and early Greek philosophy (Bernabé 2002). This interaction does not always presuppose agreement on certain topics or reciprocal influence, as the aforementioned texts indicate, but includes dissents or even polemics. Heraclitus, for instance, castigates those who perform mystery cults and purification rites in an improper manner without recognising the unity of opposites that underlies all aspects of reality (DK 22 B5, B14–15). The author of *On the Sacred Disease*, too, attacks “magicians, purifiers, charlatans, and quacks, who profess to be very religious and possess a superior knowledge”. He may well refer to Orphico-Pythagorean priests and healers who claim to cure epilepsy by using a range of cathartic techniques ([Hippocrates], *Morb. Sacr.*, 1, ed. Littré (1849) VI.354–64 = ed. Jouanna (2003) 3.18–10.3; see the comments of Jouanna (2003: 38–49). Cf. Plato, *Rep.*, 364b5–365a3.
- 44 The punctuation is adopted by Dorandi (2013: 649) in the recent edition of the text of Diogenes Laertius. On the use of the formula “X said these words to Y” as a response to an individual, see Herodotus, 3.122, 4.97 (“Coes, the son of Erxander, the general of the Mytilenaeans, said these words to Darius”).
- 45 E.g. *Iliad*, 2.484–7; Theognis, 141–2; Pindar, *Nem.*, 6.1–6. See Hussey (1990).
- 46 DK 3 B11; DK 21 B34; DK 22 B78; DK 44 B6.
- 47 LSJ s.v. τεκμαίρομαι II.1; Kranz (1939: 62). See also the comments in DK, vol. I: 214.
- 48 [Hippocrates], *Acut.*, 18, ed. Littré (1840) II.372 = ed. Joly (1972) 67.12–14; *Fract.*, 33, ed. Littré (1841) III.536 = ed. Kühlewein (1902) 99.1–2; *Hum.*, 6, ed. Littré (1846) V.484 = ed. Overwien (2014) 164.11–12. Cf. Laks and Most (2016: 747).
- 49 Wachtler (1896: 37).
- 50 [Hippocrates], *Flat.*, 3, ed. Littré (1849) VI.94 = ed. Jouanna (1988) 106.9–10.
- 51 LSJ s.v. τεκμαίρομαι II.2.
- 52 DK 21 B34. The character of Xenophanes’ scepticism has been hotly debated since antiquity for he elsewhere claims that humans gradually make discoveries (DK 21 B18). See Leshner (1978); Barnes (1982: 107–13).
- 53 Herodotus, 2.44.
- 54 Cf. Thomas (2000: 190–200).
- 55 Thucydides, 1.1–2.
- 56 Cf. Perilli (1991).

- 57 [Hippocrates], *Nat. Hom.*, 2, ed. Littré (1849) VI.36 = ed. Jouanna (1975) 170.3–7.
- 58 [Hippocrates], *Nat. Hom.*, 1, ed. Littré (1849) VI.32–4 = ed. Jouanna (1975) 164.3–166.11.
- 59 [Hippocrates], *Aër.*, 16, ed. Littré (1840) II.64 = ed. Jouanna (1996) 229.13.
- 60 [Hippocrates], *Prog.*, 24, ed. Littré (1840) II.188 = ed. Jouanna (2013) 76.7–77.2.
- 61 Lanza (1965).
- 62 Kouloumentas (2014).
- 63 Cf. Thomas (2003).

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2 Gone with the wind

Laughter and the audience of the Hippocratic treatises

Laurence M. V. Totelin

Wind theories in the Hippocratic Corpus

In the last quarter of the fifth century BC, an anonymous author wrote a particularly polished medical treatise entitled *Περὶ Φυσῶν*, *On Winds*, which was later included into the large collection of some sixty texts known as the Hippocratic Corpus.¹ The author expounded a theory whereby the body is nourished by three types of nourishment: food, drink, and the most important of them all, *pneuma*, air.² Deprivation of air leads to death; excess of air causes various afflictions:

For the bodies of human beings and other animals are nourished by three types of nourishment, and their names are food (σῖτα), drink (ποτά), and breath (πνεύμα). Breath (πνεύμα) in the body is called “wind” (φῦσα); outside bodies, it is called “air” (ἀήρ). It [breath] is the greatest master of all and in all, and it is worth examining its power . . . It just so happens that the need for breath is so great for all bodies that, while a human being can keep away from food and drink for two, three, and even more days and still live, if something blocks the breath passages into the body, s/he will die in a short part of a day. So great is the need of the body for breath, since the body’s greatest need is for breath.³

After the first few general paragraphs, the author goes on to describe the effect of winds on the body. Here is what he has to say about the absorption of wind that accompanies the consumption of food:

Of necessity, together with much food, much breath too must enter. For with all things that are eaten and drunk, breath enters into the body, sometimes more, sometimes less. This is apparent from the following fact: after food and drink most people belch. Indeed, the air (ἀήρ) enclosed [in the food], when it breaks the bubbles in which it is hidden, rushes up.⁴

Now, the air contained in food can become trapped and cause a cooling down of the internal organs, which in turn can lead to fevers and other diseases.

Medical theories in which “wind” played an important role may have been widespread in the late-fifth and fourth centuries BC. Thus, Plato describes superficially similar theories of diseases in his *Timaeus* (83d) and his *Republic* (see below) – it is unclear whether he was directly referring to *On Winds* or whether he had read/heard similar ideas elsewhere.⁵ Medical theories of wind were related to cosmological models; in the sixth century BC, Anaximenes of Miletus developed a cosmological theory in which air was the primordial substance of the universe. That theory gained some traction among fifth-century philosophers, including Diogenes of Apollonia (fl. ca. 425 BC).⁶ It is such a theory of wind that is mocked in Aristophanes’ comedy *The Clouds* (see below).⁷

Cosmological and medical theories of wind were serious business, but to the more facetious reader, they could appear rather comical for at least two reasons. First, they were sweeping, aiming to link all phenomena to a single cause.⁸ Second, the choice of that cause – air, wind – was particularly apt at provoking laughter: much of *On Winds* reads like a neat, if somewhat over-complicated, treatise on belching and farting. Plato himself writes of such theories in a half-mocking manner in the *Republic* (405c-d), where he presents the following exchange between Socrates and Glaucon, Plato’s own brother:

“And to need the medical art”, I [sc. Socrates] said, “not simply for wounds or some diseases recurring annually, but because of idleness and such regimen as we depicted, filling one’s body with fluxes and breaths (ῥευμάτων τε καὶ πνευμάτων) like marshes, and forcing the descendants of Asclepius to give to diseases fancy names such as winds (φύσας) and catarrhs – don’t you find that shameful?” “Certainly”, he [sc. Glaucon] said, “those are new-fangled and strange names for diseases”.

While Plato hinted at the amusing aspects of “windy” theories in medicine, comic authors directly ridiculed them. Indeed, ancient comic literature is filled with examples of scatological jokes where healing and medicine are mentioned.⁹ In this chapter, I first discuss a few examples of these jokes, focusing on Aristophanes (as a contemporary of some Hippocratic writers), but starting with a much later text, that of Petronius (d. AD 66). When incorporated in comedies (or other comic writing), medical theories of digestion and other bodily functions certainly raised laughter, but I want to go further by asking how the reader of the Hippocratic texts might have reacted to the numerous allusions to winds and bloated bellies, and to the discussions of sexual ailments (the two areas are often related), contained in those texts. Did the theories and therapies of Hippocratic physicians (and their followers) need to be incorporated into comedies to make audiences laugh, or would they have had that potential when found in a medical treatise? Any answer to that question must be to a certain extent speculative, but I believe the level of speculation can somewhat be reduced by considering two things: first the audience of the medical treatises and second the mentions of laughter and laughing in the Hippocratic texts. These are relatively few but do give us some interesting insights.

Comic digestive winds

Picture this scene: you are at a dinner-party; your host is a *nouveau riche* who has – in your view – no manners; he feels free to discuss his bowel movements, or rather lack thereof, in public when others are eating. This is the exact scene that Petronius depicted in his famous *Dinner with Trimalchio*. Trimalchio, the host, suffers from terrible constipation. His doctors have prescribed pomegranate rind and pinewood boiled in vinegar. He tells the assembly of the medical dangers associated with retention:

Doctors forbid holding it in. But if something more is on the way, everything is ready outside: water, chamber pots, and all the other little necessities. Believe me, rising vapours (*anathymiasis*), if they reach the brain, cause a flux throughout the body too. I know many people who have died as they refused to admit the truth to themselves.¹⁰

Trimalchio shows himself particularly uncouth, but also rather knowledgeable. He employs the technical Greek word *anathymiasis* to refer to rising vapours (the word does not appear anywhere else in the Latin corpus).¹¹ The hapless host may be prone to over-exaggeration, but this is not the only ancient joke where trapped wind causes death. The lethal effect of “holding it in” is also noted by the epigrammatist Nicarchus (first century AD):

A fart kills many, when it has no outlet,
A fart also saves, when it let its lisping song flow.
Thus, if a fart saves and kills in turn,
That fart has the same power as kings.¹²

This humorous syllogism is constructed around the word πορδή (fart), which appears on all four lines. While its meaning is very clear, πορδή is not a common word in Greek literature. It does, however, make a prominent apparition in Aristophanes’ play *The Clouds* (413 BC), where the philosopher Socrates tries to initiate the country bumpkin Strepsiades into a philosophy where “wind” plays a very important role:

Socrates: Think how loudly you have farted (πέπορδας) from such a little belly;
And how it is not probable that the Air, being boundless, should thunder so much?

Strepsiades: So that’s why the names themselves “thunder” (βροντή) and “fart” (πορδή) are similar to each other.¹³

A little earlier in the play, Aristophanes’ Socrates had explained that the winds feed many types of scholars. In his list, doctors, or rather practitioners of the medical *technē*, make an unsurprising apparition:

For, you do not know this, by Zeus, because they [sc. the Clouds] feed many sophists,

Thurian seers, practitioners of medicine (ιατροτέχνας), lazy long-haired onyx-ring-wearers,
Twisters of songs for the cyclic dances, and astronomical quacks,
They feed idle people who do nothing, because these men celebrate them in verse.¹⁴

It is possible that Aristophanes read the Hippocratic *On Winds* or heard very similar theories expounded orally. Indeed, all four Hippocratic manifestations of wind (ἄηρ, πνεύμα, φῦσα, ἄνεμος) make an appearance in *The Clouds* (with the addition of πνοή).¹⁵ In *The Clouds*, the πνεύμα going through the intestine of a gnat explains why the insect produces a buzzing sound through its bottom.¹⁶ Similarly, the ἄνεμος trapped in a cloud inflates (φῦσαι) it like a bladder, makes it burst, and causes it to catch fire, thus explaining lightning.¹⁷

It is not necessary, in the context of this chapter, to determine whether Aristophanes had any particular medical and philosophical treatises in mind when he wrote *The Clouds*.¹⁸ Rather I want to show that Aristophanes – and other authors of comedy throughout antiquity – understood the potential of ancient wind theory in general and medical wind theories in particular, to make audiences laugh. It was not theories alone that had this potential; pharmacological remedies to treat trapped wind too could provoke hilarity.

Thus, Aristophanes, in the *Women at the Thesmophoria*, presents an imagined husband who prepares a remedy to treat the bellyache of his wife, who had run to an outside toilet – in fact an excuse to go and meet her lover. That remedy is a perfectly reasonable one, which displays a basic knowledge of pharmacologically active plants:

But my husband asked me “Where are you going?” – “Where?
I have a colic and pain in my belly, husband,
And I am going to the loo”. “Go on then”.
And he crushed juniper berries, anise, and sage.¹⁹

Beside the toilet humour, this passage may also contain sexual innuendos in addition to the obvious one: this lady is going to meet her lover. This Aristophanic recipe, while being a rather effective one to treat a bellyache, might also be a parody of those gynaecological treatments that recommended herbal remedies alongside sexual intercourse.²⁰ Indeed, in the Hippocratic Corpus, herbs such as juniper, anise, and sage were used in combination with sexual intercourse to treat ailments such as displacement of the womb.²¹ In Hippocratic medicine, the herbal remedy and the sexual intercourse would be both administered within the same household, but in the Aristophanic parody, the duped husband provides the herbs, while a lover provides the sex. Meanwhile, the woman is of course perfectly healthy.

In the Aristophanic comedy, the word σπρόφος (colic) may also have sexual – or at least obstetrical – undertones, as it appears to be used in the sense of “uterine contraction” in some passages of the Hippocratic gynaecological treatises.²² Finally, Aristophanes’ recipe contains the verb τρίβω. This was the technical word employed in recipes to refer to the act of crushing, pounding, or rubbing ingredients. It also happens to be one of the verbs used to refer to sexual rubbing, as it does in the following passage of *Airs, Waters and Places*:

Stones do not occur similarly in females, for in them the urethra of the bladder is short and wide, so that the urine is expelled easily. Neither do they rub their sex with the hand as men do.²³

Thus, the cuckolded husband in *Women at the Thesmophoria* makes the mistake of rubbing the ingredients instead of “rubbing” his wife, who finds satisfaction elsewhere.

These few examples from comic texts show that comedians throughout antiquity – and beyond – saw and exploited the potential in ancient medical theories and practices. When repackaged as jokes, these theories and practices no doubt raised laughter among ancient audiences. One wonders, however, whether those same theories and practices made audiences laugh when they had not gone through a comic filter. In other words, one may ask whether ancient medical texts themselves created hilarity in their readers. That question, in turn, raises the issue of the audience of Hippocratic treatises: who read them or heard the theories contained therein?

Audience of the Hippocratic authors

There cannot be a single answer to the question of the audience of the Hippocratic treatises, which are approximately sixty in number. Another issue is that, in many cases, the Hippocratic authors do not specify for whom they are writing. As Philip van der Eijk notes, the modern reader often assumes that the perceived level of technicality of an ancient medical treatise is an accurate guide to its original readership.²⁴

To be sure, some Hippocratic treatises are rather technical in nature and appear to have been written (and perhaps also delivered orally) with the specialist in mind; they are filled with technical vocabulary and instructions in the second person to someone who appears to be a physician. The gynaecological texts for instance are highly technical and describe diseases which, on the whole, must have been quite rare, such as displacement of the womb and terrible fluxes. These texts contain recipes that lack detail (parts of the plant to use, amounts of ingredients, methods of preparation) seemingly necessary for non-specialists to be able to use them.²⁵ However, several points must be stressed before one rashly concludes that such treatises were only read by specialists. First, it is very difficult for an author to control the readership of their work once it is disseminated. Second, as noted by van der Eijk, it is possible for the same treatise to address various audiences at

the same time.²⁶ Third, the level of understanding of “technical” matters relating to the body may have been quite high in the ancient world. The “layperson” in the fifth and fourth centuries BC (and beyond), or at least a type of educated – but not necessarily literate – person, may have been able to grasp treatises that the modern reader perceives as highly technical.

We have evidence that people who were not medically trained were reading medical texts in the classical period. Plato, Aristotle, and Xenophon complained about those people who believed they had become physicians by reading a few books; it is experience that makes the physician.²⁷ Here it should perhaps be noted that not every “reader” of an ancient medical text needed to be literate. Texts could be read aloud by a family member or slave. Reading texts aloud to a group was the standard practice in the classical period.²⁸ Referring to medical – and more particularly pharmacological – texts, Plato in the *Phaedrus* uses the expression “hearing from a book”.²⁹

However, even these authors acknowledged that the layperson could become quite skilled in medicine. Thus Aristotle, in the *Politics*, writes: “by physician (*iatros*), I mean the skilled craftsman, the master in the art, and third, the person who is educated in this art (for there are such people, so to say, in every single art)”.³⁰ Entire medical treatises were written for the benefit of these educated people. Indeed, the Hippocratic author of *Affections* notes, in his opening section, that he writes for the benefit of the ἰδιώτης, the layperson:

Any man who is wise must, upon considering that health is most important for human beings, gain from his personal intelligence the knowledge necessary to help himself in diseases, and understand and judge what physicians say and what they administer to his body, and understand each of these things to a degree reasonable for a layman (ἰδιώτην) . . . I shall therefore now explain these matters, from the point from which the layperson must understand each of them.³¹

In the pursuit of health, the author of *Affections* argues, the patient and the physician should work hand in hand. In order for the collaboration to work, the layperson should be well informed, hence the need for medical treatises written for non-specialists. It is difficult, however, to determine what layperson the author of *Affections* had in mind: how educated was he – for he was most definitely male (the Greek word used is ἀνὴρ)? How wealthy was he? What social position did he have?

Affections is a treatise that describes numerous diseases, sometimes in technical detail. Reflecting their own preconceptions as to what an ancient layperson could have grasped, some modern scholars have interpreted the opening statement in *Affections* as untrustworthy. For instance, Paul Potter argues that the opening chapter “represents a frame, into which a two-part medical treatise has been set”, i.e. a treatise meant for physicians.³² Other scholars, such as Pilar Pérez Cañizares, on the other hand, are convinced that the treatise *Affections* was written with the layperson in mind.³³ Brooke Holmes’ interpretation is the most

nuanced. She argues that the layperson is not so very different from the physician in *Affections*:

[T]he author invites the addressee to occupy a position that, at least in a modified way, mimics the physician's role insofar as it is defined by reasoning, knowledge and judgement. The layperson, in other words, becomes like a physician, but in relation to his own body. He thus internalized the split within the clinical relationship, which is transformed, accordingly, into a relationship to the self.³⁴

We have then relatively ample evidence that people who were not medically trained read medical texts in antiquity. Reading such texts must not have been a particularly pleasant task, as some of the ailments described are quite harrowing. The descriptions of other afflictions, on the other hand, are not without inherent humour. For instance, the account in *Affections* of intestinal troubles following some alimentary and drinking excess might have raised a smile of recognition in the reader:

When, after wine or feasting, one is taken by attack of bile or diarrhoea, in the case of diarrhoea, it is useful to make him fast, and if he is thirsty, to give him sweet wine and sweet pressed grapes.³⁵

I do not mean to say that the author of the treatise intended this to be humorous, but I believe some readers might have smiled at the recollection of their own excess and/or those of their relatives and friends. As modern theories of reading have argued, the text and its interpretation ultimately belong to the reader.³⁶

I have shown that it is important not to let our modern preconceptions taint our understanding of the readership of ancient medical texts. The treatises discussed so far, and in particular *Affections*, can be perceived as very technical to the modern eye, but may have been read by laypeople.³⁷ Not all Hippocratic treatises are this technical, however. This is the case of *On Winds*, with which we started. The style of the work is reminiscent of that of epideictic speeches, and in particular, of Gorgias' *Helen*, as scholars have long noted.³⁸ Such a medical text may have started its life as a speech delivered in front of an audience gathered in the agora (or another public place) of an ancient Greek city.³⁹ Although *On Winds* is a highly polished speech, which was certainly revised for written circulation, a listening audience is mentioned (ἀκούοντας).⁴⁰ Vivian Nutton has argued that healers in the ancient world competed against each other in what he has called "the medical market place".⁴¹ In this context, good rhetorical skills were essential.

Now, to the philosophically minded listener not adverse to mono-causal explanations, theories such as those expounded in *On Winds* may have seemed very appealing. The less seriously minded, on the other hand, might have found them rather hilarious. One may wonder whether among the audience in the agora, some giggled like schoolchildren or even laughed out loud. We know from descriptions

in Galen (who is admittedly working in a much later period) that the audience at medical lectures was far from silent and could be at times less than respectful.⁴²

I have suggested then, albeit in a speculative manner, that some of the audience at medical speeches, and some lay readers of medical texts, may have found some theories expounded there, or even some descriptions of ailments, quite humorous. It is now worth shifting our attention away from the audience and onto the medical author's perspective and reflecting on his views of laughter. I turn to the few mentions of laughter in the Hippocratic Corpus and ask whether they can inform us about how the author would have expected his audience to appreciate his texts.

Laughter in the Hippocratic Corpus

It is fair to say that there is little on laughter in the Hippocratic Corpus. Mentions are scattered over a variety of treatises that have few common characteristics. However, taken together, these disparate testimonies yield interesting results.⁴³

We start our tour with laughter and babies. The short embryological treatise *Seven-/Eight-Month Child* (early fourth century BC) discusses how babies laugh and cry in their sleep or unconsciously until forty days after birth, after which time they start laughing and crying when stimulated.⁴⁴ The author interprets the fact that babies laugh and cry from their birthday as a sign that infants possess a type of intelligence (φρόνιμα); they are in possession of their senses and are therefore no longer in the vegetative state that characterises the embryo.⁴⁵ The link between laughter and possession of one's senses is a recurrent theme in the Hippocratic passages on laughter.

Uncontrollable laughter (and tears) is a sign that a patient has lost their senses in some case histories in the *Epidemics*, a series of treatises that describe medical cases. For instance, the aptly named Silenus is afflicted with irrepressible laughter:

Silenus who lived on the Broad-Way, near the house of Evalcidas. From fatigue, drinking, and ill-timed exercise, was taken by a fever. It began with a pain in the loins, and he felt heaviness of the head, and stiffness of the neck [there follows a list of horrible symptoms]. On the third day, everything reached its paroxysm . . . no sleep at night, much talking, laughter, singing – he could not restrain himself.⁴⁶

The list of symptoms then goes on, and on the eleventh day, Silenus dies. The author informs us that he was approximately twenty. Here and elsewhere, uncontrollable laughter is an indication that the mind of the patient is affected and that the outcome of the disease will most probably be bad.⁴⁷

Yet, laughter in illness is not always a sign of impending doom. Indeed, one of the Hippocratic *Aphorisms* notes that “delirium accompanied by laughter is safer; that accompanied by a serious mood is more dangerous”.⁴⁸ Laughter even appears as a form of treatment in *Regimen IV*. This treatise describes dreams that have a

prognostic value in illness. In one case, where a particular dream is a sign of anxiety, laughter is recommended as a cure:

Whenever the heavenly bodies wander in all directions, it is a sign that there is some disturbance of the soul because of an anxious mind. It is useful for this patient to rest. The soul should be turned towards contemplation, especially of mirth-provoking things (γελοίας), but if that is not possible of other things that will delight when gazed at, for two or three days, and recovery will occur. Otherwise, there is a danger of becoming ill.⁴⁹

It is useful to note that using dreams as a prognostic tool was an area of overlap between Hippocratic medicine and “temple” medicine, the healing practised in the sanctuaries of the god Asclepius and his acolytes.⁵⁰ Some testimonies relating to incubation in the god’s temple contain what Stephen Halliwell calls “a gelastic element”. Thus, in the following dream, recorded in the *iamata* from Epidaurus (fourth century BC), the god laughs:

Euphanes, a child from Epidaurus. Afflicted with stones, he slept [in the temple]. It seemed to him that the god stood by him, and said: “What will you give me, if I make you healthy?” And he answered: “ten dice”. The god laughed and told him that he would stop [his suffering]. When day came, he was healthy, and left.⁵¹

The god’s laughter is not in itself healing, but it plays an important role in this narrative of healing. Perhaps the god is laughing at the nature of the boy’s suggested payment (ten dice) or, more generally, at the plight of humans afflicted with ill health.

Unlike Asclepius who does not refrain from laughter, the Hippocratic physician should remain serious, according to the pedagogical text *Physician* (a late treatise by Hippocratic standards):

And a man who allows himself to laugh and to show excessive cheerfulness is considered vulgar. And this must be especially avoided.⁵²

The Hippocratic physician then was a serious man who avoided the outbursts that were best left to the comic theatre. Laughter in the Hippocratic Corpus as a whole is rather ambivalent. It can be the sign of an unsettled body and mind, but can at times be better than too serious a mood. It can indicate that the outcome of an illness will be terrible, but bring healing in other cases. Its sometimes-uncontrollable character (a baby laughs from the day of her birth) makes it particularly difficult to comprehend. The physician at any rate should avoid laughing, although the fact that such advice had to be written down might indicate that not all doctors were mirthless – Asclepius the healer certainly did not follow that rule.

While the author of *Regimen IV* hints at the healing power of laughter, the Hippocratic authors have nothing to say about the healthy catharsis that occurred at

comic performances. Unlike Galen, who wrote extensively on comedies, the Hippocratic authors are silent on the topic of comedy and satire.⁵³ Would they have objected to audiences laughing at their new theories and therapies?

Conclusions

Unlike Galen, Hippocratic authors do not write about their audience laughing at their theories. They were composing their treatises – for the most part – at a time when prose writing was a relatively new practice in Greek; they were attempting to build the credentials of their art, their *technē* – a serious business indeed. Besides, the Hippocratic physicians considered laughter with some anguish: it could indicate a serious medical imbalance. But it is difficult, perhaps impossible, to control one's audience and even harder to control that audience's reactions.

It is clear that ancient comedians generally, and Aristophanes in particular, exploited the comic potential found in the theories and therapies described in the Hippocratic treatises, which they may have read or heard about on the public places of Greek cities. Aristophanes would probably have counted himself as one of the laypeople whom the author of *Affections* encouraged to read medical treatises. Now, it takes comic genius to transform raw medical material into refined jokes, but it does not take comic genius to laugh – perhaps childishly – at wind(y) theories. Plato himself sniggered at these: why describe the body as one would a bog? Why attempt to elevate base bodily functions such as shitting and farting?

At a time when the boundary between the layperson and the physician was very much blurred, perhaps one important differentiating characteristic was the ability to keep a straight face when discussing wind theories? As the author of *Physician* wrote, the physician should remain serious and avoid laughing in the presence of his patient. The Hippocratic physician may have been full of hot air, but to him that hot air was no laughing matter.

Notes

- 1 For the dating, see Jouanna (1999: 378); Craik (2015: 102). It should be noted that a similar theory of winds is attributed to Hippocrates himself in the medical doxography by the Aristotelian Meno, which is to be found in the *Anonymus Londiniensis* papyrus (5.35–6.45, ed. Manetti (2003) 10–13). For summaries of the debates on the links between *On Winds* and the *Anonymus Londiniensis*, see Ducatillon (1983), Jouanna (1988: 39–49), and Craik (2015: 101).
- 2 The translation is not straightforward: see Craik (2015: 98). I translate ἀήρ as “air”, πνεύμα as “breath”, and φῦσα as “wind”. Allen (2010: 63) notes that “*On Breaths* is the more dignified way to translate his [sc. Hippocrates'] title, but it might equally be called *On Farting*”.
- 3 [Hippocrates], *Flat.*, 3–4, ed. Littré (1849) VI.92.21–96.8 = ed. Jouanna (1988) 105.12–108.4:

Τὰ σώματα καὶ τὰ τῶν ἄλλων ζώων καὶ τὰ τῶν ἀνθρώπων ὑπὸ τρισσῶν τροφῶν τρέφεται· τῇσι δὲ τροφῇσι τάδε ὀνόματά ἐστι, σῖτα, ποτά, πνεύμα. Πνεύμα δὲ τὸ ἐν τοῖσι σώμασιν φῦσα καλεῖται, τὸ δὲ ἔξω τῶν σωμάτων ἀήρ. Οὗτος δὲ μέγιστος ἐν τοῖσι πᾶσι τῶν πάντων δυνάστης ἐστίν· ἄξιον δὲ αὐτοῦ θεήσασθαι τὴν

δύναμιν . . . Τοσαύτη δὲ τυγχάνει ἡ χρεΐη πᾶσι τοῖσι σώμασι τοῦ πνεύματος ἐοῦσα, ὥστε τῶν μὲν ἄλλων ἀπάντων ἀποσχόμενος ὄνθρωπος καὶ σιτίων καὶ ποτῶν δύναται ἂν ἡμέρας δύο καὶ τρεῖς καὶ πλέονας διάγειν· εἰ δέ τις ἐπιλάβοι τὰς τοῦ πνεύματος ἐς τὸ σῶμα διεξόδους, ἐν βραχεῖ μέρει ἡμέρης ἀπόλοιτ' ἂν, ὡς μεγίστης τῆς χρεΐης ἐοῦσης τῷ σώματι τοῦ πνεύματος.

Unless stated otherwise, all translations are mine. The quoted Greek text for passages cited in this chapter follows the most recent editions, when available, rather than that of Émile Littré.

- 4 [Hippocrates], *Flat.*, 7, ed. Littré (1849) VI.98.21–100.10 = ed. Jouanna (1988) 111.7–112.7:

Μετὰ δὲ πολλῶν σιτίων ἀνάγκη καὶ πολλὸν πνεῦμα ἐσιέναι· μετὰ πάντων γὰρ τῶν ἐσθιομένων τε καὶ πινομένων ἀπέρχεται πνεῦμα ἐς τὸ σῶμα ἢ πλεόν ἢ ἔλασσον. Φανερόν δ' ἐστὶν τῷδὲ· ἐρυγαὶ γίνονται μετὰ τὰ σιτία καὶ τὰ ποτὰ τοῖσι πλείστοισιν· ἀνατρέχει γὰρ ὁ κατακλεισθεὶς ἀῆρ, ὅταν ἀναρρήξῃ τὰς πομφόλυγας, ἐν ἧσι κρύπτεται. Ὅταν οὖν τὸ σῶμα πληρωθὲν τροφῆς πλησθῇ καὶ πνεύματος, ἐπὶ πλεόν τῶν σιτίων χρονιζομένων – χρονίζεται δὲ τὰ σιτία, διὰ τὸ πλῆθος οὐ δυνάμενα διελθεῖν – ἐμφραχθείσης δὲ τῆς κάτω κοιλῆς, ἐς ὅλον τὸ σῶμα διέδραμον αἱ φύσαι· προσπεσοῦσαι δὲ πρὸς τὰ ἐναιμότατα τοῦ σώματος ἔψυξαν.

- 5 On the differences between the theories proposed by the Hippocratic author and Plato in the *Timaeus*, see Jouanna (1988: 44–5).
- 6 See in particular ed. Diels and Kranz [henceforth DK] (1951–2) 13B2 (Anaximenes) and DK 64B5 (Diogenes). There is much literature on the links between the theories expounded in *On Winds* and that of the pre-Socratic philosophers; for introductions to the debate, see Jouanna (1988: 25–9) and Craik (2015: 101–2).
- 7 See in particular *Nub.* 263–6.
- 8 Plato, in the *Symposium*, presents the theories of the physician Eryximachus in a rather mocking tone because he tries to explain complex phenomena with such a sweeping theory: to Eryximachus, medicine is the “knowledge of the love-matter of the body in regard to repletion and evacuation” (*Symp.* 186c).
- 9 The existing literature on the topic concentrates on whether Aristophanes and other comic authors used technical medical vocabulary, with the issue of what exactly constitutes “technical vocabulary”. See Miller (1945); Casevitz (1983); Byl (1990, 2006); Zimmermann (1992); Rodríguez Alfageme (1995, 1999); Jouanna (2000); and Soleil (2011). Here, I am more interested in what theories and treatments comic authors thought had the potential to make their audience laugh. There are striking similarities between a fragment of Antiphanes’ play *The Doctor* and a sentence of the Hippocratic *On Winds*: Antiphanes, fr. 106, ed. Kassel and Austin (1991): ἅπαν τὸ λυποῦν ἐστὶν ἀνθρώπῳ νόσος | ὀνόματ' ἔχουσα πολλά (“for what vexes humans is disease, which goes by many names”); *Flat.*, 1.4, ed. Littré (1849) VI.92.5–7 = Jouanna (1988) 104.5–6: αὐτίκα γὰρ λιμὸς νοῦσός ἐστιν· ὃ γὰρ ἂν λυπῇ τὸν ἄνθρωπον, τοῦτο καλεῖται νοῦσος. For instance, hunger is a disease; for what vexes humans, that is called disease. On the similarities between the fragment of Antiphanes and *On Winds*, see Langholf (1986: 18). It is also worth mentioning that there are some similarities between the theories expounded in *On Winds* and passages in two of Euripides’ tragedies: *Hipp.* 188; *Tro.* 884.
- 10 Petronius, *Satiricon*, 47:

Et medici vetant continere. Vel si quid plus venit, omnia foras parata sunt: aqua, lasani et cetera minutalia. Credite mihi, anathymiasis si in cerebrum it, et in toto corpore fluctum facit. Multos scio periisse, dum nolunt sibi verum dicere.

For a very interesting analysis of Trimalchio’s constipation, see Toohey (1997), who notes that Trimalchio’s worries over constipation are linked to his fear of the passing of time and of death. Trimalchio’s constipation is “a somatization (a sign or symbol)

of Trimalchio's fears" (1997: 54). See also Suetonius, *Claudius*, 32, on the dangers of holding wind during a banquet.

- 11 Greek may have been Trimalchio's first language of course. On Trimalchio's use of the word, see Toohey (1997: 60).

- 12 Nicarchus in *Palatine Anthology* 11.395:

πορδὴ ἀποκτέννει πολλοὺς ἀδιέξοδος οὔσα,
πορδὴ καὶ σφάζει τραυλὸν ἰεῖσα μέλος.
οὐκοῦν εἰ σφάζει καὶ ἀποκτέννει πάλι πορδὴ,
τοῖς βασιλεῦσιν ἴσην πορδὴ ἔχει δύναμιν.

On this epigram, see Schatzmann (2012: 349–51). Note that LSJ translated πορδὴ as *crepitus ventris*, and Paton (1918) renders it in English as “fart”.

- 13 Aristophanes, *Nub.* 392–4:

Σωκράτης. σκέψαι τοίνυν ἀπὸ γαστριδίου τυννουτουὶ οἷα πέπορδας:
τὸν δ' Ἀέρα τόνδ' ὄντ' ἀπέραντον πῶς οὐκ εἰκὸς μέγα βροντᾶν;
Στρεψιάδης. ταῦτ' ἄρα καὶ τὸνόματ' ἀλλήλοιν βροντὴ καὶ πορδὴ ὁμοίω.

- 14 Aristophanes, *Nub.* 331–4:

οὐ γὰρ μὰ Δί' οἶσθ' ὅτι πλείστους αὐταὶ βόσκουσι σοφιστάς,
Θουριομάντεις ἱατροτέχνας σφραγιδονυχαργοκομήτας,
κυκλίων τε χορῶν ἀσματοκάμπτας ἄνδρας μετεωροφένακας,
οὐδὲν δρῶντας βόσκουσ' ἀργούς, ὅτι ταύτας μουσοποιοῦσιν.

Aristophanes here coins a word, ἱατροτέχνη, which later scholiasts and the Byzantine *Suda* encyclopaedia (I 63) explicated as follows: Ἱατροτέχνη δέ. ὅτι καὶ ἱατροὶ περὶ ἀέρων, ὁρέων καὶ ὑδάτων ἔγραψαν. συντάγματα δέ εἰσιν Ἱπποκράτους οὕτως ἐπιγραφόμενα, περὶ ἀέρων, τόπων καὶ ὑδάτων (“Practitioners of medicine: physicians wrote about airs and water, and clouds are made of water. At all events, there exists a treatise by Hippocrates titled *Airs, Waters and Places*”).

- 15 Ἀήρ: lines 198, 230, 264, 393, 627, 667, 762; ἄνεμος: 404; φῦσα: 405; πνεῦμα: 164. Πνοή does not appear in *On Winds*, but it appears in many other Hippocratic treatises.

- 16 Aristophanes, *Nub.* 160–8.

- 17 Aristophanes, *Nub.* 404–6.

- 18 See n. 9 above.

- 19 Aristophanes, *Thesm.* 483–6:

Ὁ δ' ἀνὴρ ἐρωτᾷ· “Ποῖ σὺ καταβαίνεις;” Ὅποι;
στρόφος μ' ἔχει τὴν γαστέρ', ὦνερ, κώδύνη·
εἰς τὸν κοπρῶν' οὖν ἔρχομαι”. “Βάδιζε νυν”.
Κᾶθ' ὃ μὲν ἔτριβε κεδρίδας, ἄννηθον, σφάκον.

- 20 See Totelin (2016: 295–6) for an analysis of the recipe and its ingredients.

- 21 See for instance *Mul.*, 2.128, ed. Littré (1853) VIII.274.10 and 276.8. On sexual therapy in the Hippocratic Corpus, see Dean-Jones (1992: 60–1); King (1994: 34–5); Totelin (2007); and Totelin (2009: chapter 5).

- 22 See for instance *Mul.*, 1.48, ed. Littré (1853) VIII.106.18–108–1: Ἦν γυναικὶ τὸ χορίον ἐλλειφθῇ . . . καὶ στροφὴ ὡς ἐμβρύου ἐόντος (“If the afterbirth of a woman is trapped . . . there are contractions as if there was a child inside”).

- 23 [Hippocrates], *Aër.*, 9, ed. Littré (1840) II.40.7–42.2 = Jouanna (1996) 211.4–7: Τοῖσι δὲ θήλεσι λίθοι οὐ γίνονται ὁμοίως· ὁ γὰρ οὐρητὴρ βραχὺς ἐστὶν ὁ τῆς κύστιος καὶ εὐρύς, ὥστε βιάζεται τὸ οὔρον ῥηϊδίως· οὔτε γὰρ τῇ χειρὶ τρίβει τὸ αἰδοῖον ὥσπερ τὸ ἄρσεν.

- 24 Van der Eijk (1997: 86).

- 25 For more detail, see Totelin (2009: chapter 6, especially 245).

- 26 Van der Eijk (1997: 88).
- 27 Plato, *Phaedrus* 268c; Aristotle, *EN*, 10.9, 1181b2–6. Xenophon, *Mem.*, 4.2.10.
- 28 See Thomas (1992: 13) for references.
- 29 Plato, *Phaedrus* 268c: ἐκ βιβλίου ποθὲν ἀκούσας. On literacy and Hippocratic medicine, see in particular Lonie (1983); Miller (1990); Dean-Jones (2003); Totelin (2009).
- 30 Aristotle, *Pol.*, 3, 1282a3–5: ἰατρὸς δ' ὅ τε δημιουργὰς καὶ ὁ ἀρχιτεκτονικὸς καὶ τρίτος ὁ πεπαιδευμένος περὶ τὴν τέχνην (εἰσὶ γὰρ τινες τοιοῦτοι καὶ περὶ πάσας ὡς εἰπεῖν τὰς τέχνας). See Dean-Jones (2003: 118) on this passage.
- 31 [Hippocrates], *Aff.*, 1, ed. Littré (1849) VI.210.1–21 = Potter (1988) V.6.1–7.8. See also *Aff.*, 33, ed. Littré (1849) VI.244.10–12 = Potter (1988) V.56.3–6.
- 32 Potter (1988: 4–5). See also Wittern (1998: 31–2).
- 33 Pérez Cañizares (2010). See also van der Eijk (1997: 86–8).
- 34 Holmes (2013: 462).
- 35 [Hippocrates], *Aff.*, 27, ed. Littré (1849) VI.238.10–12 = Potter (1988) V.44.1–3: Ὅταν δὲ ἐξ οἴνου ἢ εὐωχίης χολέρῃ λάβῃ ἢ διάρροια, τῇ μὲν διαρροίῃ συμφέρει διανηστεύειν, καὶ ἢν δίψος ἔχῃ, διδόναι οἶνον γλυκὺν καὶ στέμφυλα γλυκέα.
- 36 Barthes (1968) is the seminal text here. For ways in which reading of ancient gynaecological and cosmetic texts could be perverted, see Totelin (2017).
- 37 This comment also applies to later medical texts, such as Galen's *Therapeutics to Glaucón*, which Galen addressed to the philosopher Glaucón, who seemingly had an amateur interest in medicine. See Peterson (1974: 32–46); see also Bouras-Vallianatos (Chapter 9) in this volume.
- 38 For an introduction to the question, see Jouanna (1988: 10–24); and Craik (2015: 99). The Hippocratic treatise *On the Art* also resembles classical epideictic speeches.
- 39 See Kollesch (1992: 337–8).
- 40 [Hippocrates], *Flat.*, 14, ed. Littré (1849) VI.110.16 = Jouanna (1988) 121.8.
- 41 Nutton (1992). It is difficult what the authors were competing for exactly. Dean-Jones (2003: 111–21) argues that they were competing for not so much for patients, but for established physicians to attract new students.
- 42 See for instance Galen, *AA*, 7.10, ed. Kühn (1821) II.619.16–621.2 = ed. Garofalo (2000) 443.26–445.19, where the physician tells of his public dissection of an elephant. Some of Galen's friends laugh (γελῶντων, II.620.10 = 445.9) at those “not trained” (ἀγύμναστοι, II.620.7 = 445.6) in such matters. On the episode, see Scarborough (2005).
- 43 The passages on laughter found in the pseudo-Hippocratic *Letters* are here excluded, as they may not be the work of a medical author. They tell the story of the encounter between Hippocrates and the philosopher Democritus of Adbera, who is laughing at everything, big and small. See especially *Epist.*, 17, ed. Littré (1861) IX.348–380 = Smith (1990) 73–92. The story of Democritus' laughter is well studied. See for instance Pigeaud (1981: 452–68 and 474–7, especially 463–4); Hersant (1989); Smith (1990: 20–30); Rütten (1992); and Halliwell (2008: 360). This story had a strong influence on many medical thinkers in the Renaissance and beyond, and most particularly on Rabelais; see Bakhtin (1968: 67–8). The tradition of the laughing Democritus was well attested in antiquity. See for instance Cicero, *Or.*, 2.58.
- 44 [Hippocrates], *Sept. Oct.*, 9, ed. Littré (1851) VII.450.17–22 = Potter (2010) IX.92.4–12:

Τὸ μὲν γὰρ ἴδιον φρόνημα δῆλόν ἐστιν ἐνεδὸν ἐν τῷ σώματι τῇ πρώτῃ ἡμέρῃ· ἔν τε γὰρ τοῖς ὕπνοισιν ἐνίστε, εὐθέως ἐπὶ γένωνται, γελῶντα φαίνεται τὰ παιδία καὶ κλαίοντα, καὶ ἐγρηγορότα γε αὐτόματα εὐθέως γελᾷ τε καὶ κλαίει πρόσθεν ἢ τεσσαράκοντα ἡμέραι γενοῖατο· οὐ δὲ γελᾷ ψαυόμενά οὔτε κλαίει ἐρεθιζόμενα πρόσθεν ἢ αὐτὸς ὁ χρόνος οὗτος γένηται· ἀμβλύνονται γὰρ αἱ δυνάμεις.

Indeed a particular type of intelligence is manifest in the body [of the infant], even on the first day. For immediately after the birth, infants appear to laugh and cry in their sleep. When awake, they laugh and cry spontaneously before they are forty days old; but they do not laugh or cry upon being touched or provoked until the end of the period, for the powers are dulled.

On this treatise, see Jouanna (1999: 386–7); and Craik (2015: 246–50).

- 45 There were debates in antiquity as to when a baby acquired their senses and rationality. For an introduction and bibliography, see Dasen (2013).
 46 [Hippocrates], *Epid.*, 1.13, Case 2, ed. Littré (1840) II.684.10–686.7 = Jones (1923) I.186.24–188.14:

Σιληνὸς ὥκει ἐπὶ τοῦ Πλαταμῶνος πλησίον τῶν Εὐαλκίδες· ἐκ κόπων, καὶ ποτῶν, καὶ γυμνασίων ἀκαίρων, πῦρ ἔλαβεν· ἥρξατο δὲ πονεῖν κατ’ ὀσφύν, καὶ κεφαλῆς βάρος, καὶ τραχήλου σύντασις . . . Τρίτη, πάντα παρωξύνθη . . . νυκτὸς οὐδὲν ἐκοιμήθη· λόγοι πολλοὶ, γέλως, ὥδή· κατέχειν οὐκ ἠδύνατο.

On “nonsense and excessive speech” as symptoms in the Hippocratic treatises, see Webster (2016: 187–9, and 187 in particular for this case).

- 47 See also the case of the wife of Delearces in Thasos: *Epid.*, 3.17, Case 15, ed. Littré (1841) III.142.9 = Jones (1923) I.282.12, on which see Halliwell (2008: 95, n. 105). Delearces’ wife died on the twenty-first day of her illness. Laughter remained a sign of serious illness throughout antiquity; see Pigeaud (1981: 463) for references.
 48 [Hippocrates], *Aph.*, 6.53, ed. Littré (1844) IV.576.13–14 = Jones (1931) IV.190.22–24: Αἱ παραφροσύναι αἱ μὲν μετὰ γέλωτος γινόμεναι, ἀσφαλέστεραι· αἱ δὲ μετὰ σπουδῆς, ἐπισφαλέστεραι. On the treatise, see Jouanna (1999: 376–7); and Craik (2015: 30–4).
 49 [Hippocrates], *Vict.*, 4.89, ed. Littré (1849) VI.648.19–650.4 = Jones (1931) IV.432.4–11:

Ὅκόσα δὲ τούτων πλανᾶται ἄλλοις ἄλλως, ψυχῆς τάραξιν τινα σημαίνει ὑπὸ μερίμνης· συμφέρει δὲ τούτῳ ῥαθυμῆσαί· τὴν ψυχὴν τραπέσθαι πρὸς θεωρίας, μάλιστα μὲν πρὸς τὰς γελοίας, εἰ δὲ μὴ, ἄλλας τινὰς ἃς ὅ τι μάλιστα ἡσθήσεται θεησάμενος, ἡμέρας δύο ἢ τρεῖς, καὶ καταστήσεται· εἰ δὲ μὴ, κίνδυνος ἐς νοῦσον πίπτειν.

For later cases of ancient uses of laughter as therapy, see Halliwell (2008: 16–17). On the treatise *Regimen* IV, see Jouanna (1999: 408–9); and Craik (2015: 269).

- 50 See van der Eijk (2004) for an introduction to the question.
 51 *IG* IV².1, 121, lines 68–71:

Εὐφάνης Ἐπιδάυριος παῖς. οὗτος λιθίων ἐνε[κά] θευδε· ἔδοξε δὲ αὐτῷ ὁ θεὸς ἐπιστὰς εἰπεῖν· “τί μοι δωσεῖς, αἶ τύ κα ὑγιῇ ποιήσω;” αὐτὸς δὲ φάμεν “δέκ’ ἀστραγάλους”. τὸν δὲ θεὸν γελάσαντα φάμεν νιν παυσεῖν· ἀμέρας δὲ γενομένας ὑγιῆς ἐξῆλθε.

See Halliwell (2008: 16–17).

- 52 [Hippocrates], *Medic.*, ed. Littré (1861) IX.206.3–4 = Potter (1995) VIII.300.18–20: ὁ δὲ εἰς γέλωτα ἀνιέμενος καὶ λίην ἰλαρὸς φορτικὸς ὑπολαμβάνεται· φυλακτέον δὲ τὸ τοιοῦτον οὐχ ἥκιστα. Dean-Jones (2010) suggests that this text is not addressed to the student doctor, but rather to the “novice instructor”. Indeed, the treatise would otherwise appear to teach deception and quackery. See also King (1998: 42). For the dating of the treatise, which has been much debated, see Jouanna (1999: 404); and Craik (2015: 163–5).
 53 See Galen, *Lib. Prop.*, 20, ed. Kühn (1830) XIX.48.13 = Boudon-Millot (2007) 173. See de Lacy (1966: 265).

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3 The professional audiences of the Hippocratic *Epidemics*

Patient cases in Hippocratic scientific communication¹

Chiara Thumiger

Introduction

The audience as determinant in the construction and understanding of a text has long entered the historiography of ancient literatures;² in the field of the history of medicine (especially in its earlier phases, with their problematic compositional and transmission history), the exploration of audiences is a particularly important part of the equation in the attempt to fill in the void left by the fragmentation or instability of our sources' textual form. As van der Eijk has argued,³ formal and stylistic approaches to medical texts, in line with the more theoretically minded readings of other ancient literatures which are more commonly perceived as “canonic”, or “high”, are a much-needed move. This is not only the case for works clearly rich in authorial strategies, such as Galen's treatises, but also for those writings of the earlier period which had long been dismissed, outside the field of history of medicine, as “badly written” and only interesting as documents of rudimentary science. In this spirit, we shall then focus on medical texts as items in a communication, “speech acts”⁴ that can reveal information about their own target audiences, and concentrate on one specific group of texts belonging to the Hippocratic Corpus: the patient reports found in the seven books of the *Epidemics*.

As it is well known, the *Epidemics* are not consequential volumes composing a self-enclosed opus, but should instead be subdivided into three different blocks (*Epid.* 1–3; 5–7; and 2, 4 and 6) that display internal connections, and are among themselves of varying internal coherence and dating, ranging from the end of the fifth to the middle of the fourth century.⁵ What all seven books share, however, is a focus on human individuals, on the clinical dimension of the medical art. Over five hundred patients are mentioned in them – some of them within accomplished, diary-like case reports that monitor the illness from onset to death or recovery, others just brought in as examples, to provide a passing illustration for a medical point or draw parallels to other cases. Such a large quantity of references to individual clinical examples leaves the historian with questions which an audience-directed inquiry is best equipped to answer.⁶ In particular: 1) Why did the ancients take such extensive record of individual cases, in particular in the early phase of Greek medicine? 2) What was the intended purpose, and who are the interlocutors of these reports – their audience – as they were recorded and drafted?

3) In parallel to all these, which features in the form and presentation of the patient cases of the *Epidemics* can help us tackle these questions?

We shall begin by addressing the first two topics, in a comparative key. A brief consideration of the function of patient reports in current medical practices in dialogue with our ancient examples will prove very instructive in highlighting the distinctive characteristics of the ancient situation. We will then move to the third topic and explore some of the most notable formal features of the Hippocratic patient cases in terms of audience effect. In particular, I propose to interpret some of their most distinctive characteristics as expression of a mnemonic effort. This is part and parcel of a practice of medicine still largely based on oral learning and teaching, in which concrete details and direct experience had a much greater weight in proportion to theory than is the case for medical writings of the early centuries of our era; in these cases experience “grows out of sense perception aided by memory”, to quote Jaeger’s formula for the epistemology of the *Epidemics*.⁷ At the same time, the explicit intellectual engagement of the audience, of the “individual minds” of readers or listeners – the explicit demand to be remembered – stands out among all scientific genres, Western at least, as specific of medical literature of all times, precisely due to the urgency, and the consequences for human survival, that characterise medicine.

Why take record of individual cases?

It makes sense to approach our questions in comparative dialogue with the long tradition of case study in modern and contemporary medical training. The practice and study of patient stories – including case taking and the drafting of reports – are a fundamental part of the curriculum in medical schools and of the organisation of medical knowledge nowadays in the Western world at least.⁸ The subject of “history taking and examination” is an important part of the training as a medical student and features in undergraduate syllabuses as well as medical literature.⁹

The external presentation of some of the cases preserved in the *Epidemics* shows some strong analogies to contemporary practices. This is the case especially for those found in books 1 and 3, which are more elaborated and neatly concluded reports:¹⁰ a day-by-day (or anyway a regular) progression is often followed, with a section introducing the patient and the outcome at the end mostly made explicit.¹¹ If there are analogies in content and structure, however, more important and telling for us are the differences in purpose and context between the Hippocratic practice and contemporary case reports. Medical activity nowadays and the clinical sphere in particular – the handling of patients – are fundamentally shaped by institutionalisation: hospital organisation and university programmes, protocols, career paths and hierarchies and the constraints posed by financial aspects (insurance policies and national health systems) and by legal ones (responsibility, standards of professional conduct and so on). All these determine the shape in which illnesses are recorded and define their audience: a medical-professional one, but also a bureaucratic, administrative entity and the patients themselves to an important extent.

In ancient medicine, and especially in the classical era where our *Epidemics* cases were first written down, no such complex professional and institutional system was in place, and a clear-cut separation between laymen and professionals of the medical art was still absent from current social practices, as well as a matter of debate among the “scientific” physicians themselves.¹² The question about the purpose and target of recording cases, then, needs to be answered exclusively in terms of intellectual motivation (scientific and didactic). There is no external lay party targeted, but the interlocutor remains internal to the group of physicians – those present, those consulting the reports at a second stage. The *Epidemics* patient reports are thus for us a precious document to the ancients’ strategies for organising their medical knowledge and to their choice of the individually named case as epistemological form. This complete lack of any operational dimension allows us to see these cases as intellectual and epistemological material of a “purer” kind than the files and paperwork of modern hospitals; as such, they are best understood in terms of “thinking in cases”, to quote Forrester’s famous formula, a specific mode that occupies its own place in scientific thinking (as well as other areas, such as politics and law),¹³ descending from “Aristotle’s practical wisdom”.¹⁴ Forrester highlights how in the Hippocratic cases, despite their interest in individualisation, several general, doctrinal factors play a role (humours, hot and cold, and so on), thus locating them between empiricism and generalisation, and offering a first attempt to “standardised chronology” in their accounts of the course of individual illnesses.¹⁵ In our reading, we propose to look at the audiences of these texts as the primary, concrete reason for their existence in that precise form.

What are the purpose and the interlocutors of case taking?

The audience of patient reports is divided nowadays between 1) private, lay audiences, comprising the patients themselves and their families, plus non-medical third parties such as health care providers and financial entities, and 2) the professional and scientific audiences, consisting of attending physicians, recording their experiences for colleagues or for themselves for future use, students using the cases to learn clinical procedures and patient handling, and a larger scientific community debating cases of exceptional scientific interest – the highest representation of which is the so-called “grand round”, the presentation of one case to a wide audience of medics in order to gather comments and disseminate results.

In the Hippocratic case reports, the targeted audiences and objectives are basically limited to the second receiving end, constituted by a scientific-professional-didactic environment,¹⁶ and they are also fundamentally different in the form in which they are cast and in their epistemological function. The modern patient cases – but in this respect already the Galenic discussions of patients¹⁷ – belong to an approach to medicine that is rooted in a essentially fixed body of theoretical knowledge, one which is taken for granted as true and posited as foundational to the clinical activity. The individual case has a scientific *raison d’être* insofar as it is referred to this fixed body of knowledge, measured against it. Individual patients

are diagnosed in previously known terms and based on postulated principles: this is evident, in current medicine, from the use of labels and protocols and, in the Galenic cases, in the deductive “detective narrative” that shapes them, where the doctor of exceptional competence and skill uncovers difficult diseases and hidden causes.¹⁸ While they all address medical audiences too, each of the three types of patient case (modern, Galenic and Hippocratic) has its own peculiarity not only as far as audiences are concerned, as we have seen, but also in the way in which audiences are involved. In the first two, the individual illustrates the general, is understood through the general, and only thanks to the physician’s knowledge of the general is the patient treated in the best possible way. The Hippocratic texts, instead, are testimony to a much more open, fluid and tentative phase. The recording move is predominantly descriptive, and the information communicated is first and foremost an account of facts. As Grmek famously articulated, classical Greek medicine remained “diffident” towards that particular kind of empiricism that later allowed the development of the “scientific method” of proof and experiment.¹⁹ The observation of patients is here a matter of “taking stock” of experiences rather than interpreting and even extracting generalities from them.²⁰ One should not dismiss, of course, the interest in patterns of disease and shared factors notably illustrated by the constitutions in *Epidemics* 1 and 3; the greatest emphasis in these clinical works, however, remains placed on the variety of details collected, rather than on their organisation into a comprehensive theory of disease. The Hippocratics’ key interest is to register and preserve as much variety as possible, rather than associating it to rule or doctrine: to share an extended body of clinical experiences and scientific controversy with a wider audience of physicians and students, in what appears to be an effort towards a “virtual community” of scientists participating in the openness of attempts, mistakes, *aporiai*, and, sometimes, successes.

What to remember? Ancient instructions for case taking

Such openness, empiricism, descriptiveness and lack of theoretical engagement are alien to later casuistry in ancient medicine and make the Hippocratic approach a *unicum* at that in the history of Western science. Some explicit evidence is available in this connection, and in particular, there are three texts which effectively offer instructions about the items to observe and record during visits which are worth mentioning.

A first, famous passage is found at Hippocrates, *Epidemics* 1.23, which offers a list of items “to be observed”:

From the custom, mode of life, practices and age of each patient, [data expressed by] words, manners, silence, thoughts, sleep or absence of sleep, nature and time of dreams, pluckings, scratchings, tears.²¹

A passage at *Epidemics*, 6.8.7–15²² is even clearer, as it alludes to the existence of a kind of “protocol”. Here the author speaks of a certain “material from the small tablet”, the τὰ ἐκ τοῦ μικροῦ πινακιδίου that appears to contain a kind of

case-taking checklist, indicating the major σκεπέα, “things to observe”. The list includes diet in all its aspects, sensorial perceptions, evacuations and behaviour of the patient; secretions of various kinds (7–8); at 9–10, heterogeneous data about sleep, dreams, the position of the bed, the general conditions of the environment and the mental life of the patient respectively; again factors related to age and the development of the individual (11), congenital and pathological factors (12), season (13) and factors typical of the diseases considered (14) and of the “epidemic” ones (15). From this rich “handbook” we detect little interest in generalisation – the most evident sign of which would be a synthetic, diagnostic move; rather, the author prescribes the harvesting of details and gives guidelines on which topics should be remembered for the visit.

Along similar lines, *On Humours* too offers lists of things to observe. At *On Humours* 2 we read:

These things are to be observed: symptoms which cease of themselves, what is harmful or beneficial and in what cases, positions, movement, rising, settling, sleep, waking, which things are to be done or prevented, winds. Instructions about vomit, evacuation below, sputum, mucus, coughing, belching, flatulence, urine, sneezing, tears, itching, pluckings, touchings, thirst, hunger, repletion, sleep, pain, absence of pain, body, mind, learning, memory, voice, silence.²³

At *On Humours* 4, again we read:

The evacuations, whither they tend, without foam, with coction or cold, without coction, flatulent, dry and moist, bad smelling, thirst that was not present before, brought about neither by heat nor by any other cause, urine, wetness of the nostrils, prostration, dryness or fullness of the body and troubled respiration, hypochondrium, extremities, eyes sickly, change of complexion, pulsations, palpitations, chills, hardness of the skin, of the sinews, of the joints, of the voice, of the mind; voluntary posture; . . . the dreams the patient sees, what he does in sleep, if his hearing be sharp, if he be interested in understanding information . . .²⁴

It is clear from these passages that patient observation (and reports, as a consequence) had to be detailed descriptions and that their audience and authors were basically identical subjects, professionals and repositories of medical authority. How could these remember such complex “to-do lists” during visit, and afterwards for drafting the report? How could this template be made to stick in the memory of students and physicians? We should now turn to the topic of memorisation and memory as part of the audience-directedness of these texts.

Mnemonics and medical education

The use of mnemonics is not unfamiliar to medical students even today, and indeed, it is recognised as very important in the study of medicine and in its practice.

Currently employed textbooks and medical school material include lists of mnemonics for the memorisation of difficult lists,²⁵ and an average standard text such as the *International Handbook of Research in Medical Education*²⁶ discusses the “psychology of learning”, emphasising the importance of acronyms (first-letter mnemonics) to train students’ ability to remember lists of symptoms, names of anatomical parts and so on. Nowadays too, then, students (and then scientists) must rely on memory for key information that needs to be immediately retrieved when practising. This is the case for medics much more than for any other scientist, it is worth emphasising again, precisely due to the pragmatical, operational component of medicine and of the “urgency” factor that typifies it.

Of course, all written-down data presuppose memorisation and are aimed at recollection, in any text, not only medical or even technical. In the case of medical knowledge articulated in cases, however, this is true in a more concrete and visible sense. The physician needs to remember the right questions and areas of inquiry, and the data gathered from the examination, and short-hand them. Many details, some of them even idiosyncratic and trivial, are noted as they populate the picture of personal vividness – the difference between arid facts and human data – and especially, I argue, since they function as future mnemonics for the physician, they help him remember specific clinical facts, successful procedures, dangers, unexpected reactions and so on.²⁷

This mechanism holds good for today’s physician as well as for their ancient counterparts. Nonetheless, mnemonics in contemporary practices (with their availability of written records and information) has a different, curtailed role compared to the ancient state of affairs. In the classical era written transmission was still an exception and parallel, rather than alternative to oral culture.²⁸ In such a context memorisation belongs to the purpose of any text, and effects aimed at enhancing memorability – for the performer, audience or both – are in fact embedded in all genres of antiquity. Ancient testimonies clearly show awareness of the importance of mnemonics – take Cicero’s anecdote about Simonides’ ability to remember the name and place of all guests at a large banquet, by resorting to a “mental image”.²⁹ There are, surely, important differences from the explicitly stated aims of communication, say, in oratory – to persuade; in epic – to entertain; in tragedy – to engage emotionally and intellectually and teach at a moral and spiritual level (these, of course, not discounting combinations and overlaps, nor banalising the other socio-cultural levels on which all these genres operate). In the case of medicine, memorability has a specific operative application – to allow reproduction of the same actions or to avoid them – and had to be attached to the individuality of the one case as event, rather than to an artistic sequence of words, a poetic effect, a rhyme or a story of beauty.

The mnemonics ancient medical audiences needed and employed were also very different from contemporary medical mnemonics, mostly first-letter acronyms, although both are motivated by the urgency of recalling needed knowledge. A glimpse into a similar expedient, although allowing only a partial comparison is a notable feature of the preserved manuscripts of *Epidemics* 3, namely the “characters” that are found in some manuscripts at the end of patient reports in this book. These letters, which were known to Galen and regarded already by him

as not original, appear to be a form of shorthand, to the purpose of summing up notable features of each case: Y or Θ for life and death respectively, A for “miscarriage” or “destruction”, M for “madness” or “womb”, Φ for “phrenitis” or “consumption” and so on.³⁰ These signs give us some insight into the use and responses of professional audiences to these cases and into possible strategies to summarise them and make them readily available for consultation by assigning token signs.

The addition of these characters on the manuscripts of *Epidemics* 3 remains, however, a later and rather unique piece of evidence in the direction of extracting a diagnosis or assigning a pathological category to individual patient cases. It is, rather, the vividness and sometimes narratological³¹ complexity in the text itself of the Hippocratic cases that has the effect of reminding doctors of the collected data, through the idiosyncratic mnemonic trigger of a face, a place, a human detail. This “representational” project, the drawing of these “scenes” is closely allied to the scientific objective, since their point is precisely to allow the transmission of particular information.

In short, through these case reports, the medical author sought, among other things, to present medical knowledge in a mnemonically viable form, so as to offer students and colleagues a repertoire of concrete examples of the doctrines studied and the practices recommended. The appeal to individuality in patient cases is thus altogether different from that characterising current forms of case recording – aimed at legal-financial purposes or part of the privacy-minded record each legal subject in our world is entitled to. Rather, it is an individuality of an epistemological kind, serving exclusively the observer, not the observed. What in current medicine is only one half of the role of case taking is in Hippocratic medicine the centre of the practice.

Ancient mnemonics in the form of patient cases

To better illustrate this, let us follow the acceptable indications of a psychology manual currently in use,³² according to which key mnemonic expedients are:

- the use of mental pictures;
- to form bizarre, unusual or exaggerated mental connections;
- to make information familiar; and
- to make things meaningful.

When we look at patient cases in terms of memorisation, recollection and mnemonics, a yet more fundamental difference between ancient and modern times becomes evident: the modern reliance on the precise, steadfast and readily available backup of written details versus the blind field in which the Hippocratic physician had to work. This is not an accessory fact: reflection on, and recollection of, individuals pose entirely different challenges and presuppose entirely different motivations when not backed by the bureaucracy and documentation that frame modern citizenship.

The use of mental pictures

First of all, the emphasis on names, addresses and anagraphics of various sorts. These vary a lot in the *Epidemics* but in most cases convey a strong sense of individuality. In *Epidemics* 1–3, names are real ones, often with address: e.g. at *Epidemics* 1.26, case 1: “Philiscus lived by the wall”,³³ case 2: “Silenus lived on Broadway near the place of Eualcidas”³⁴ and case 8: “Erasinus lived by the gully of Boötes”.³⁵ In some cases definitions based on where a patient was found are used (*Epidemics* 1.26, case 5: “the wife of Epicrates, who lay sick near the (statue/temple of) the founder”;³⁶ case 6: “Cleanactides, who lay sick above the temple of Heracles”; case 10: “the man of Clazomenae, who lay sick by the well”;³⁷ case 13: “a woman lay sick by the shore”;³⁸ and case 14: “Melidia, who lay sick by the temple of Hera”);³⁹ sometimes the people patients are staying with are recalled: *Epidemics* 3.1.5, “Charerion, who lay sick in the house of Demaenetus”,⁴⁰ case 7: “the woman . . . who lay sick in the house of Aristion”,⁴¹ case 9: “the woman who lodged with Tisamenus”,⁴² and case 10: “a woman who was out of the house of Pantamides”.⁴³ Names, places, relations: what is the point in this systematic precision (all patients in *Epidemics* 1–3 are qualified in one of the ways above) in a medical culture where bureaucratic data gathering played no role? The function of these labels is precisely to allow memorisation and visualisation of each occurrence.

To form bizarre, unusual or exaggerated mental connections

More clearly relevant still to our purpose are the cases in *Epidemics* 2, 4 and 6, which we have seen to have a more conspicuous “didactic” component: here names are mostly absent, and their indication is replaced by periphrases with idiosyncratic and realistic details, whose mnemonic function is overt: “the wife of the leatherworker who made my shoes”; the “woman with pain in the hips” (*Epidemics* 2.2, 17, 18);⁴⁴ “the men whose head I opened” and “the man whose calf was cut” at *Epidemics* 4.1;⁴⁵ “the ropemaker”, “the branded slave” at *Epidemics* 4.2;⁴⁶ “the Chalcedonian carried from the gates to the agora. . . .” at *Epidemics* 4.3;⁴⁷ “the wool carder” at *Epidemics* 4.36;⁴⁸ and “the newly purchased servant girl whom I saw” at *Epidemics* 4.38.⁴⁹ In *Epidemics* 6 we also find periphrases: “the man stretching while twisting the vine pole” at *Epidemics* 6.3.8,⁵⁰ or “the one who was corroding on the head” at *Epidemics* 6.4.5,⁵¹ or “the man to whom Cyniscus brought me” at *Epidemics* 6.7.10.⁵² The sense of these is to create a viable, memorable anecdote for students and scientists to easily recollect or picture – consider also the unique mention of a (possibly comic) nickname in *Epidemics* 6.8.29,⁵³ “Satyros, in Thasos, nicknamed ‘the griffinfox’”.⁵⁴

To make information familiar

A passage at Hippocrates, *Epidemics* 6.2.24,⁵⁵ recommends which specific themes should be addressed during a visit: “dispositions about the patient” and

“questioning” him, or her, and accordingly taking notice of “what he tells, what kind of things, how he should be received”; his or her reasoning, or words; “what relates to the patient, what relates to those who are present, and to people elsewhere”. Questioning the patient is important, claims this physician, and the interrogation must explore the larger context of the sick person. A kind of sociology and psychology of the patient seems to be recommended, of the kind case taking nowadays involves, aimed at assessing the life conditions and psychological environment of patients. When we compare, however, these indications with the fact that details about relationships and general social status are not paramount (indeed, they are absent, except from the mention of slaves) in any of the cases we have,⁵⁶ we are drawn to another interpretation of the recommendation that has to do with the audience and with the later use or uses of the texts: these interpersonal details are better explained by invoking a mnemonic purpose – they are ways to create that familiarity of the patient that allows recollection at the same time.⁵⁷ In the same spirit we can interpret details at first sight less significant, such as the specification, describing the sixth day of the illness of the wife of Theodorus, that abundant sweating occurred at a precise moment of the day, “around the time of the filling of the marketplace”,⁵⁸ arguably also an expedient to fix a critical event into memory.

Other features one may define as “emotional” can be seen in the same light, lacking any other functional justification: “the beautiful daughter of Nerios” is a remark that seems to function as a mnemonic token by appealing to the emotional effect of a beautiful young girl, especially as she “dies on the ninth day”.⁵⁹ A different kind of emotionality is that of professional and scientific suspense; in the mistaken prognosis of Timocrates in *Epidemics* 5.2, the patient “did not seem in his sleep *to those who were there* to be breathing, but to have died. He perceived nothing, speech or action, and his body was stretched out and rigid. *But* he survived and woke up”;⁶⁰ or in the case at *Epidemics*, 5.46,⁶¹ where the patient survived “against all expectations” (παραδοξότατα ἐσώθη). Associating a case to a challenging, critical moment ensures its notability for future recollection.

To make things meaningful

Another mnemonic avenue, finally, is the highlighting of the intellectual dimension of the medical challenge, to connect it to scientific effort and discussion, thus associating it with “meaning”. The most powerful tool in this sense is the reference to controversy. A mnemonic network, in fact, is also created by the frequency with which the work of fellow doctors is critically mentioned – sometimes approved of, more often criticised; one’s mistakes are also sometimes admitted, effectively staging a medical “programme”.⁶² The most conspicuous examples for such effect are found in *Epidemics* 2, 4 and 6, and to a lesser extent in *Epidemics* 5 and 7.⁶³ For instance, at *Epidemics* 7.123,⁶⁴ the doctor is criticised: “the doctor *did not realise*” (and the patient died); at *Epidemics* 5.14,⁶⁵ we read that “it seemed to the doctors that it was peripleumonia, *but it was by no means the case*”; at *Epidemics* 5.28,⁶⁶ it is said that a case “was *rightly* recognised as needing trephination”.

All these involve the professionals present there, as well as add tridimensionality to the reports by evoking the ambiguity and problems of the individual case, its cognitive and scientific complexity. Caution or modesty is just a different modality of the same inclusion of self and internal audience which enhance memorability and reader engagement – “I, for one, thought that. . .” and the like. For instance, at *Epidemics* 5.95,⁶⁷ “it seemed *to me* that the physician who took out the spear left a piece of the shaft in the diaphragms. Since he was in pain, the physician gave him an edema towards evening and a drug by the bowel . . .”.⁶⁸

As readers are engaged with the debate and its very practical consequences, professional choices and clinical practices are anchored to a unique and thus unforgettable scene, which is the information the doctors are interested in. These intersecting scientific opinions and professional subjects create a vivid, dramatic act that bring experience back to life and make it memorable: it is not the name of a disease, or the efficacy of one drug that is at the centre, but a repertoire of details, a full experience that is shared through the reports with students and colleagues.

Questions and teaching

Questions are a feature of didactic exchange; it is obvious that they are instrumental to mnemonic acquisition. These are especially found in *Epidemics* 2: e.g. at *Epidemics* 2.2.9b: “question: is it easier always to satiate with drink or with food?”⁶⁹ and at *Epidemics* 2.2.10: “how can one recognise very serious pains?”.⁷⁰ These are general points – but strictly practical, not theoretical; there are also clinical questions attached to individual cases, e.g. *Epidemics* 2.3.11: “does such excrement indicate crisis, as did that of Antigenes?”.⁷¹ At *Epidemics*, 7.57: “is it true that in all suppurations, including these around the eye, the distress comes towards night?”.⁷²

There are a few similar examples in the *Epidemics* and in other texts which preserve clinical material, such as *Prorrhetic* 1,⁷³ another text dated to the classical period. These questions are a useful element to analyse the history of medical audiences and medical intellectual debates. The format, in fact, while fitting an occasion of learning and a circumstance of oral exchange, becomes also the shape of a specific technical genre, of which the Aristotelian *Problemata* are the most obvious example: that of scientific open questions which offer both a list of topics for discussions and a repertoire of genuine interrogatives about physical topics. Later texts show the influence of this style of scientific transmission,⁷⁴ thus rendering inadequate a simplistic classification of it in terms of orality alone.⁷⁵ What was in the *Epidemics* more directly dependent on the oral context of data collection and composition persists as style of scientific writing precisely by virtue of its mnemonic effectiveness.⁷⁶

Conclusion

In a very explicit way, the patient cases in the later group of *Epidemics* expose the traffic in and out, so to speak, in the creation of the patient narratives: the disease,

the patient and the operating physicians are the main actors in the story, but a complication of competing voices and ears contribute to the form of the patient reports as we have them, giving them depth and shaping them to fit a present, but most of all a future didactic and scientific transmission. The later audience of the cases, or the practising and recording physician projecting his audience, participate in the creation of the text as well as constituting its ultimate receiver.

To summarise our findings, the Hippocratic *Epidemics* case reports is an example of a text whose intended audiences, despite the ambiguities and historical uncertainties about the texts' composition and transmission, were very firmly delimited as professional and medical. Such closure defines this phase of ancient medicine as particularly territorial and "technical", on the one hand – no literary pretence, nor broader intellectual appeal of the kind shown by Galen is on the horizon of these writers, nor any explicit attempt to win over lay audiences, at least in the *Epidemics*.⁷⁷ Also, it tells us something about the epistemology and didactics at work in the Hippocratic handling of patients, which we can summarise as follows: non-theoretical, observation-based and data-centred; self-standing, i.e. not relying on a system of knowledge or a "syllabus" (compare Galen's frequent recommendation on which of his books one should read first, which are for beginners, what should follow, etc.), but needing to "support itself" by insuring the memorisation of the repertoires of observations, procedures, risks and mistakes; lack of a synthesis of the empirical data, such as a form of diagnosis, or of the "epistemological extension" that might turn the observed case into an "experiment".⁷⁸ The Hippocratic use of individual evidence – the patient case – remained in this early stage a communication of pure *data*. Individual memory, in conclusion, the reception of an individual intellect – a future student, a training doctor – characterises the audience of these texts, motivates and even determines, concretely, their very existence.

Notes

- 1 I would like to thank the organisers of the conference, Petros Bouras-Vallianatos and Sophia Xenophontos, for inviting me to present this paper and offering their useful feedback, and the audience at the conference for their insights and criticism; Lutz Graumann for discussion about current medical case taking; the anonymous reader at the press; and last but not least, the Alexander von Humboldt project directed by Ph. Van der Eijk and the Wellcome Trust who funded my research during the time in which I worked on this study in its various versions.
- 2 See Taplin (2000: 1–5) for a statement embracing history of ancient literature as a whole; Werner Jaeger in his *Paideia* (1944: 3–45), in the chapter on "Greek medicine as education", was the first to offer a perspective in this sense with reference to medicine, which remains fundamental.
- 3 Van der Eijk (1997: 79–121).
- 4 See van der Eijk (1997: 83).
- 5 See Jouanna (1999: 387–90) and Craik (2015: 63–91) for details.
- 6 Van der Eijk (1997: 86–9).
- 7 Jaeger (1944: 20).

- 8 See Böhm, Köhler and Thome (1978) and the various reflections on this genre, its techniques and methodological challenges in Hunter (1991); Good (1994); Del Vecchio Good (1995); Frank (1995); Greenhalgh and Hurwitz (1999); Brody (2003).
- 9 Just representatively: the UCL “Guide to history taking and examination” at www.ucl.ac.uk/pcph/undergrad/cbt/year4/history-and-examination (accessed 18 February 2017).
- 10 See Hellweg (1985) and Lichtenthaeler (1994) for an analysis of the formal features of these cases and their heavier authorial hand.
- 11 One short example: [Hippocrates], *Epid.*, 1.26, case 2, ed. Littré (1840) II.684–6 = ed. Kühlewein (1894) 203.11–204.1:

Silenus lived on Broadway near the place of Eualcidas. After over-exertion, drinking, and exercises at the wrong time he was attacked by fever. He began by having pains in the loins, with heaviness in the head and tightness of the neck. From the bowels on the first day there passed copious discharges of bilious matter, unmixed, frothy, and highly coloured. Urine black, with a black sediment; thirst; tongue dry; no sleep at night. *Second day.* Acute fever, stools more copious, thinner, frothy; urine black; uncomfortable night; slightly out of his mind. *Third day.* General exacerbation; oblong tightness of the hypochondrium, soft underneath, extending on both sides to the navel; stools thin, blackish; urine turbid, blackish; no sleep at night; much rambling, laughter, singing; no power of restraining himself. *Fourth day.* Same symptoms. *Fifth day.* Stools unmixed, bilious, smooth, greasy; urine thin, transparent; lucid intervals. *Sixth day.* Slight sweats about the head; extremities cold and livid; much tossing; nothing passed from the bowels; urine suppressed; acute fever. *Seventh day.* Speechless; extremities would no longer get warm; no urine. *Eighth day.* Cold sweat all over; red spots with sweat, round, small like acne, which persisted without subsiding. From the bowels with slight stimulus there came a copious discharge of solid stools, thin, as it were unconcocted, painful. Urine painful and irritating. Extremities grow a little warmer; fitful sleep; coma; speechlessness; thin, transparent urine. *Ninth day.* Same symptoms. *Tenth day.* Took no drink; coma; fitful sleep. Discharges from the bowels similar; had a copious discharge of thickish urine, which on standing left a farinaceous, white deposit; extremities again cold. *Eleventh day.* Death.

Here and throughout, English translation of the *Epidemics* 1, 3 and 2, 4–7 are by Jones (1923) and Smith (1994) respectively, with adjustments.

- 12 See, in this respect, Thumiger (2016: 199–200) on the fluid boundaries between “popular” and “scientific medicine” in ancient culture, especially in the classical era; Harris (2016) for an important and full methodological discussion.
- 13 Forrester (1996: 13–14) for a brief “history” of the medical case.
- 14 Forrester (1996: 21).
- 15 Forrester (1996: 13), who, however, did not otherwise devote much space to the Hippocratics in his discussion.
- 16 This is the case especially for the clinical texts of the *Epidemics*; other Hippocratic treatises admit the presence of laymen among their addressees, for instance *On Regimen* and *On Internal Affections*, which involve the understanding of intelligent non-professionals, or *On the Sacred Disease* which offers philosophical comments we can imagine to be in line with current intellectual trends and addressed to a wider audience. The intellectual milieu of Hippocratic medicine and its transmission has long attracted scholarly attention: see Deichgräber (1933) and (1982), and Langholf (1990) on the *Epidemics*; Jouanna (1999: 75–112) for an introduction; most recently, important contributions focused on the aspects of Hippocratic “teaching” and scientific communication have appeared in Horstmanshoff (2010); van der Eijk (2005: 121–236).

- 17 See Lloyd (2009).
- 18 See Lloyd (2009: 124–5) on “success” as distinctive feature of the Galenic cases.
- 19 Grmek (1996).
- 20 On these characteristics, see Lloyd (2009: 121, 130–1).
- 21 [Hippocrates], *Epid.*, 1.23, ed. Littré (1840) II.670.5–9 = ed. Kühlewein (1894) 199.15–18: ἐκ τοῦ ἔθεος, ἐκ τῆς διαίτης, ἐκ τῶν ἐπιτηδευμάτων, ἐκ τῆς ἡλικίης ἐκάστου, λόγοισι, τρόποισι, σιγῇ, διανοήμασιν, ὕπνοισιν, οὐχ ὕπνοισιν, ἐνυπνίοισιν, οἷοισι καὶ ὅτε, τιλμοῖσι, κνησμοῖσι, δακρύσιν. Here and below, where I give a modern edition alongside the Littré reference, I follow naturally the modern text.
- 22 [Hippocrates], *Epid.*, 6.8.7–15, ed. Littré (1846) V.344–17–348.22 = ed. Manetti-Roselli (1982) 167.1–179.3. I agree with Manetti and Roselli (1982: 167–8) to take these paragraphs as a block; see also their comments on these “tablets”; on the scholarly interpretations and their significance, see Alessi (2010: 127, with n. 16).
- 23 [Hippocrates], *Hum.*, 2, ed. Littré (1846) V.478.6–13 = ed. Overwien (2014) 160.3–8:
- σκεπτέα ταῦτα· τὰ αὐτόματα λήγοντα, ἐφ’ οἷσιν οἷα βλάπτει ἢ ὠφελείη, σχήματα, κίνησις, μετεωρισμός, παλινίδρυσις, ὕπνος, ἔγερσις, ἃ τε ποιητέα ἢ κωλυτέα, φῦσαι. παίδευσις ἐμέτου, κάτω διεξόδου ἢ πτυάλου, βηχός, μύξις, ἐρετύσιος, φυσέων, οὔρου, πταρμοῦ, δακρύου, κνησμών, τιλμών, ψαυσίων, δίψης, λιμοῦ, πλησμονῆς, ὕπνων, πόνων, ἀπονίης, σώματος, γνώμης, μαθήσιος, μνήμης, φωνῆς, σιγῆς.
- 24 [Hippocrates], *Hum.*, 4, ed. Littré (1846) V.480.13–482.5 = ed. Overwien (2014) 162.1–8:
- τὰ διαχωρέοντα, ἣ ῥέπει, ἀναφρα, πέποντα ἢ ψυχρά, ὠμά, φυσώδεα, ξηρά καὶ ὑγρά, κακώδεα, δίψα πρόσθεν μὴ ἐνεοῦσα μηδὲ καῦμα μηδ’ ἄλλη πρόφασις, οὔρον, ῥινὸς ὑγρασμός, τὴν ἔρειπιν καὶ τὸν ἀνασμόν, καὶ τὸ ἀσύμπτωτον καὶ τὸ θολερὸν πνεῦμα, ὑποχόνδριον, ἄκρεα, ὅμματα προσκακούμενα, χρώματος μεταβολή, σφυγμοί, παλμοί, ψύξις, σκληρυσμός δέρματος, νεύρων, ἄρθρων, φωνῆς, γνώμης. σχῆμα ἐκούσιον . . . ἐνύπνια οἷα ἂν ὀρᾷ καὶ ἐν τοῖσιν ὕπνοισιν οἷα ἂν ποιέη, ἣν ἀκούη ὅζῃ καὶ πείθεσθαι προθυμέηται ἐν τῷ λογισμῷ.
- 25 For example, www.oxfordmedicaleducation.com/medical-mnemonics/ (accessed 18 February 2017). I thank Katherine van Schaik for discussion on this.
- 26 Norman et al (2002: 185–6).
- 27 As van der Eijk (1997: 98) clearly describes: “[T]he empirical data reflected in case histories such as the *Epidemics* must soon have reached such vast proportions and such a high degree of detail that it could not possibly be remembered; so there was a need for storage of information based on the belief that such information might remain useful”.
- 28 This is of course too large a topic to exhaust here: on the shift from oral culture to written transmission as causal force in determining the characteristics of Hippocratic scientific thought, see Lonie (1983), Miller (1991: 11–13) for the *status quaestionis*; van der Eijk (1997: 93–9) correctly reformulates the issue, indicating the written record itself as the consequence of “a new *attitude towards knowledge*”, a knowledge seen as “a common reservoir of knowledge accessible to a group of physicians . . . and admitting of additions and changes by this group of physicians” (1997: 98); Langholf (2004: 222), who addresses the Havelockian approach to Homer as model for the medical material and traces the presence, in the fifth- and fourth-century “Hippocratic” texts, of modes of communication that have still much in common with oral production and delivery.
- 29 Cicero, *Or.*, 2.86.352–4: *locos esse capiendos et ea, quae memoria tenere vellent, effingenda animo atque in iis locis collocanda* (“one must select localities and form mental images of the facts they wish to remember and store those images in the localities”), transl. by Sutton (1942); on the so-called “method of *loci*”, cf. [Cic.], *Rh. Her.* 3.16–24; Aristotle, *Top.*, 452a13–16.

- 30 See Jones (1923: 213–7), quoting Galen, *Comm. Hipp. Epid. III*, 2.4, ed. Kühn (1828) XVIII.611–3 = ed. Wenkebach (1936) 81.22–83.13.
- 31 Thumiger (2015a) and (2015b).
- 32 Coon (2005: 326).
- 33 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.682 = ed. Kühlewein (1894) 202.
- 34 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.684 = ed. Kühlewein (1894) 203.
- 35 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.702 = ed. Kühlewein (1894) 209.
- 36 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.694 = ed. Kühlewein (1894) 206.
- 37 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.704 = ed. Kühlewein (1894) 210.
- 38 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.712 = ed. Kühlewein (1894) 213.
- 39 [Hippocrates], *Epid.*, 1.26, ed. Littré (1840) II.716 = ed. Kühlewein (1894) 214.
- 40 [Hippocrates], *Epid.*, 3.1, ed. Littré (1841) III.46 = ed. Kühlewein (1894) 219.
- 41 [Hippocrates], *Epid.*, 3.1, ed. Littré (1841) III.52 = ed. Kühlewein (1894) 221.
- 42 [Hippocrates], *Epid.*, 3.1, ed. Littré (1841) III.58 = ed. Kühlewein (1894) 221.
- 43 [Hippocrates], *Epid.*, 3.1, ed. Littré (1841) III.60 = ed. Kühlewein (1894) 222.
- 44 [Hippocrates], *Epid.*, 2.2, 17, 18, ed. Littré (1846) V.90.7–13 = ed. Smith (1994) 34.
- 45 [Hippocrates], *Epid.*, 4.1, ed. Littré (1846) V.144.3 = ed. Smith (1994) 86.
- 46 [Hippocrates], *Epid.*, 4.2, ed. Littré (1846) V.144.9–12 = ed. Smith (1994) 86.
- 47 [Hippocrates], *Epid.*, 4.3, ed. Littré (1846) V.144.17–18 = ed. Smith (1994) 89.
- 48 [Hippocrates], *Epid.*, 4.36, ed. Littré (1846) V.178.10 = ed. Smith (1994) 123.
- 49 [Hippocrates], *Epid.*, 4.38, ed. Littré (1846) V.180.5 = ed. Smith (1994) 123.
- 50 [Hippocrates], *Epid.*, 6.3.8, ed. Littré (1846) V.296.5–6 = ed. Manetti-Roselli (1982) 60.1–2.
- 51 [Hippocrates], *Epid.*, 6.4.5, ed. Littré (1846) V.308.7 = ed. Manetti-Roselli (1982) 84.11–2.
- 52 [Hippocrates], *Epid.*, 6.7.10, ed. Littré (1846) V.342.8–9 = ed. Manetti-Roselli (1982) 162.5–6.
- 53 [Hippocrates], *Epid.*, 6.8.29, ed. Littré (1846) V.354.6–9 = ed. Manetti-Roselli (1982) 190.5–192.3.
- 54 On this nickname, see Thumiger (2017a).
- 55 [Hippocrates], *Epid.*, 6.2.24, ed. Littré (1846) V.290.4–6 = Manetti-Roselli (1982) 46: ἡ περὶ τὸν νοσέοντα οἰκονομία καὶ ἐς τὴν νοῦσον ἐρώτησις ἃ διηγείται, οἷα, ὡς ἀποδεκτέον, οἱ λόγοι τὰ πρὸς τὸν νοσέοντα, τὰ πρὸς τοὺς παρεόντας, καὶ τὰ ἔξωθεν.
- 56 See Thumiger (2017a) details on what there is on the topic.
- 57 See Manetti-Roselli ad loc. (1982: 47) on this passage as expressive of the importance of the patient's words.
- 58 [Hippocrates], *Epid.*, 7.25, ed. Littré (1846) V.396.5 = Jouanna (2000) 67.4: περὶ πλήθουσιν ἀγορήν.
- 59 [Hippocrates], *Epid.*, 5. 50, ed. Littré (1846) V.236.11 = ed. Jouanna (2000) 23.15: ἡ παρθένος καλὴ ἡ τοῦ Νερίου.
- 60 [Hippocrates], *Epid.*, 5.2, ed. Littré (1846) V.204 = ed. Jouanna (2000) 3.2–5: ἐν δὲ τῷ ὕπνῳ οὐκ ἐδόκει τοῖς παρεούσιν ἀναπνεῖν οὐδὲν ἀλλὰ τεθνάναι, οὐδ' ἡσθάνετο οὐδενὸς οὔτε λόγου οὔτε ἔργου, ἐτάθη δὲ τὸ σῶμα καὶ ἐπάγη, ἐβίω δὲ καὶ ἐξήγρετο.
- 61 [Hippocrates], *Epid.*, 5.46, ed. Littré (1846) V.234.9–10 = ed. Jouanna (2000) 22.8.
- 62 With Alessi's label (2010).
- 63 See Alessi (2010) on this; Manetti (1990: 149) on some important questions on the topic, with reference to *Epid.* 2.
- 64 [Hippocrates], *Epid.*, 7.123, ed. Littré (1846) V.468.5–6 = ed. Jouanna (2000) 118.4: ὁ ἱητρὸς οὐ ξυνεῖδεν.
- 65 [Hippocrates], *Epid.*, 5.14, ed. Littré (1846) V.212.20–1 = ed. Jouanna (2000) 8.19–20.
- 66 [Hippocrates], *Epid.*, 5.28, ed. Littré (1846) V.226.20 = ed. Jouanna (2000) 17.14: ἐγνώσθη ὀρθῶς.
- 67 [Hippocrates], *Epid.*, 5.95, ed. Littré (1846) V.254.19–256.1 = ed. Jouanna (2000) 42.5–8: ἐδόκει δέ μοι ὁ ἱητρὸς ἐξαιρέων τὸ ξύλον ἐγκαταλιπεῖν τὶ τοῦ δόρατος κατὰ τὸ διάφραγμα. ἀλγέοντος δὲ αὐτοῦ, πρὸς τὴν ἐσπέρην ἐκλυσέ τε καὶ ἐφαρμάκευσε κάτω.

- 68 See on this Thumiger (2015b) and (2017b).
- 69 [Hippocrates], *Epid.*, 2.2.9b, ed. Littré (1846) V.88.11 = ed. Smith (1994) 35: ἐρωτήματα· εἰ ῥήϊον ἀεὶ πληροῦσθαι ποτοῦ ἢ σίτου.
- 70 [Hippocrates], *Epid.*, 2.2.10, ed. Littré (1846) V.88.13–14 = ed. Smith (1994) 32: ὁδύνας τὰς ἰσχυροτάτας ὅτῳ τρόπῳ γνοίη ἂν τις;
- 71 [Hippocrates], *Epid.*, 2.3.11, ed. Littré (1846) V.114.8–9 = ed. Smith (1994) 59. With Smith's reading.
- 72 [Hippocrates], *Epid.*, 7.57, ed. Littré (1846) V.424.5–6 = ed. Jouanna (2000) 86.4–6 (and 5.77): ἥρά γε ἐν πᾶσι τοῖσιν ἐμπυήμασι, καὶ τοῖσι περὶ ὀφθαλμὸν, ἐς νύκτα οἱ πόνοι.
- 73 See Oikonomopoulou (2015: 70–1) on Hippocratic parallels to the Aristotelian *Problemata* and on questions in ancient medical literature.
- 74 Its influence may be found, for instance, in Galen's *On Problematical Movements*, as noted by Nutton (2015: 342); see (Nutton 2015: 342–3) on “problem literature” as genre and on its general features. See Oikonomopoulou (2015) for theoretical remarks on the structure and organisation of the Aristotelian *Problemata*; and Meeusen (Chapter 5), in this volume, on the example of pseudo-Alexander of Aphrodisias' *Medical Puzzles*.
- 75 On this, see n. 28 above.
- 76 Compare the fundamental role played by testing and questions in scientific teaching nowadays (one example, www.testprep-online.com/teas-science) (accessed 18 February 2017); teachers' instructions take questioning for granted as part of the activity of teaching, not only of assessing students: “Historically, teachers have asked questions to check what has been learnt and understood, to help them gauge whether to further review previous learning, increase or decrease the challenge, and assess whether students are ready to move forward and learn new information (factual checks – i.e. ‘Closed’ questions). This can be structured as a simple ‘teacher versus the class’ approach (Bat and Ball), where the teacher asks a question and accepts an answer from a volunteer, or selects/conscripts a specific student to answer. These approaches are implicit in any pedagogy, but teachers need a range of ‘Open’ questioning strategies to address different learning needs and situations”. (www.nsead.org/downloads/Effective_Questioning&Talk.pdf [accessed 18 February 2017]).
- 77 See n. 16 above.
- 78 See above p. 51.

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Part II

The Imperial world



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4 Galen's *Exhortation to the Study of Medicine*

An educational work for
prospective medical students*

Sophia Xenophontos

Introduction

Galen's (AD 129-ca. 216) *Exhortation to the Study of Medicine*, classified among his works related to the Empiricist medical school, is one of his less well-known treatises. It is a peculiar piece both in the topics it tackles and in its style and form of argumentation more generally. In the first part (Chapters 1–14), the author discusses the importance of engagement with the arts, preparing the ground for a more specialised exaltation of the greatest of them, medicine. That is explored in the second part, which does not survive.

The dual subject of the work might partly explain its controversial title, which continues to perplex scholars to this day. Should it be called *Exhortation to the Study of Medicine*, as Galen himself appears to have called it in his auto-bibliographical work *My Own Books*?¹ It is given this same title by St Jerome in the fourth century² and by Hunayn ibn Ishāq (d. 873) in his Arabic translation of the title.³ Or should it be called *Exhortation to the Study of the Arts* in accordance with the quite reliable Aldine version (dated to 1525), our earliest surviving testimony of the work in the absence of any Greek manuscript?⁴ Whatever the answer to that might be, the existence of two alternative titles found in the various stages of the transmission of the text shows with some degree of certainty that, during the revival of the treatise in later times, its two sections must have been received as distinct thematic units,⁵ presumably serving the purposes of different readerships. There is no similar evidence, however, to suggest that the work circulated in two different segments in Galen's time. Therefore it would be fair to say that it was in all likelihood published as a single entity back then and intended for a specific audience,⁶ as will be discussed below. Furthermore, although we are not in a position to reconstruct to any extent the lost part on medicine, some scholars are right to suggest that it must have contained traditional material about the importance of the medical art, which Galen would have employed in other instances within his corpus, for instance in his small tract *The Best Physician is also a Philosopher*.⁷ On the other hand, Galen's encouragement of participation in the arts, which reflects his interest in philosophical education *per se*, points to a less familiar aspect of his thought and one that can help us penetrate below the surface appearance of an alleged technical treatise.

In the larger project from which this chapter derives, I aim to give prominence to Galen's role as a moralist of the Roman Imperial period by examining how and to what degree this aspect of his intellectual profile was shaped by his philosophical and medical background, social status, cultural affiliations, and occasionally idiosyncratic spirit. The main thesis I am putting forward is that Galen's moral agenda is an essential part of his philosophical discourse and that his identity as a therapist of the emotions corresponds to his role as a practising physician on a number of intriguing levels. Galen's moral programme on emotional well-being and self-management has been passed over or at best treated cursorily,⁸ thus I am aiming to elucidate the variations of his ethical mindset in an attempt to demonstrate that Galenic moralism is in close dialogue with the practical ethics of the post-Hellenistic period, not in any passive fashion but through distinctive transformations.

In this chapter, I wish to focus specifically on the moralising techniques that permeate Galen's *Exhortation to the Study of Medicine* and explore how these inform the construction of his moral authority. I want to look, in addition, at the ways in which he tailors his ethical advice in order to respond to the needs of his intended audience comprising, I suggest, adolescents who are about to start their intermediate education and are urged to engage with professional studies, starting with philosophy and progressing on to medicine. I aim to throw some interpretative light on this neglected work by also discussing its rhetorical force vis-à-vis its literary *comparanda* (earlier and later)⁹ and especially by arguing that Galen writes under the influence of Plutarch (AD ca. 45–ca. 120), a key moralist of the early Roman Imperial period.

The surviving essay can be divided into two sections; chapters 1–8 juxtapose the permanent benefits of acquiring skills in the arts with the unpredictable changes of fortune, while chapters 9–14 describe at some length the risks associated with intense physical exercise.

Chapters 1–8: arts vs fortune

In the *Exhortation to the Study of Medicine* (henceforth in its abbreviated form *Exhortation*), Galen engages with the ethical subgenre of the protreptic, which conventionally aims to encourage (προτρέπειν) the study of philosophy and the attainment of virtue.¹⁰ That is the tone, for instance, in Plato's *Phaedo* and *Euthydemus*, in Aristotle's fragmentary *Protreptic*, Isocrates' *Antidosis*, or the much later *Protreptic* by Iamblichus (AD ca. 245–ca. 325),¹¹ although the origins of the genre may go as far back as the writings of the fifth-century sophists.¹² Associated also with the exhortative performances of professional orators in law courts (e.g. those of Gorgias or Lysias), the protreptic preserved its character of persuading an audience not so much through rational arguments as through emotional appeals. As such it becomes a philosophical genre with rhetorical force, or more broadly a combination of rhetoric and popular philosophy, as Burgess claims.¹³ In many instances, I will explicitly show the function of what I call Galen's "moralising rhetoric", which makes use of epideictic elements by putting them to work in the interests of his readers' self-reform.¹⁴

The *Exhortation* starts with Galen expressing scepticism as to whether the so-called irrational animals are indeed entirely devoid of reason.¹⁵ Such agnostic statements often have a rhetorical purpose rather than being intended as a philosophical stimulus for further reflection, for they are immediately countered by a remark reflecting Galen's certain knowledge so as to win the reader over.¹⁶ Thus, in this instance, he goes on to assert that, although some animals possess at least some degree of reason, they certainly do not have the capacity to learn whichever art they wish in the way man does.¹⁷

The sharp distinction between rational humans and irrational animals was posited in orthodox Stoicism by Chrysippus (ca. 280–207 BC),¹⁸ who surmised that animals cannot be bearers of any reason, but Galen seems to take here a more flexible stance by accepting at least some sort of animal intelligence. This aligns him with the Stoic Posidonius of Apamea (ca. 135–ca. 51 BC), who, as Galen himself tells us in *On the Doctrines of Hippocrates and Plato*, attributed emotions to animals such as pleasure (ἡδονή) and anger (θυμός).¹⁹ Moreover, Galen's eagerness to acknowledge the limited existence of animal rationality rather than dismiss it altogether shows how close he is to Plutarch's influential thesis that all animals, to a lesser or greater extent, are carriers of reason. Plutarch was central to the debate over the mental capacities of animals in that he devoted three separate treatises to explore the issue systematically, viz. *On the Cleverness of Animals*, *Whether Beasts are Rational* (also known as *Gryllus*), and *On the Eating of Flesh*, as well as independent discussions within other works of his *Moralia*, for example in *On the Love of Offspring* and *Table Talk*, all of which, as Newmyer has persuasively contended, attest to his substantial contribution to this philosophical question.²⁰ Especially Galen's reference to the intellectual abilities of land animals (rather than of marine ones) and in the same context the employment of illustrative examples that involve specifically spiders and bees²¹ are elements found in Plutarch's animal-related accounts,²² which make a strong case for Galen's dependence on the latter.²³ This is a broader proposal I will be making throughout, which is, on a first level, supported by the fact that Galen seems well aware of the work of Plutarch, quoting from it several times across his writings either explicitly or in less direct ways.²⁴ On another level, Galen's engagement with the Plutarchan intertext may be further corroborated by the interesting turn we find in the first chapter of the *Exhortation*, emphasising man's ability to learn and perform every art, a skill that as a rule, according to Galen, all other animals lack. This emphasis seems a meaningful inversion of Plutarch's *On the Cleverness of Animals* 966E-F, which refers to spiders' webs being admired and imitated by man in weaving. Galen focuses more on man's limitless ability to imitate and learn, which transcends animals' inborn and very limited set of skills.²⁵ This twist serves as the springboard for the ensuing narrative, in which Galen seeks to establish the uniqueness of man by explaining his potential for practising the arts as the product of reasoned choice (*prohairesis*)²⁶ rather than of inherited nature (*physis*).²⁷

The reference to *prohairesis* (translatable as “volition” or “reasoned/moral choice”) is important because of its association with the Platonic and Aristotelian educational model, where it constitutes the decisive aspect of virtue and

character.²⁸ In fact, the distinction between humans and animals in this prefatory context is predicated on the assumption that education (*paideia*), as a matter of exercise and habituation, is an exclusively human asset. That justifies why Galen goes on to stress the significance of training for human education²⁹ and to praise the constant labour that helps man acquire the most outstanding of divine gifts, philosophy.³⁰ Galen therefore vindicates the necessity for the study of the arts that he preaches in his essay, assuring his readers that his text conforms to their intellectual status.

The elements of irrationality, nature, and labour taken together bring to mind Seneca's (ca. 4 BC–AD 65) *Letter* 90. This describes in nostalgic terms the golden age of mankind, in order to stress that the business of philosophy has always been the pursuit of moral virtue by living in harmony with nature, rather than achieving technological progress and material sufficiency. This *Letter*, which is also taken to be an exhortation,³¹ makes use of refutation devices to undermine Posidonius' claim that humans had discovered the arts through philosophical training.³² The emphasis that Galen puts on the notion of training further attests to his affiliation to Posidonius, which in turn makes it highly probable that he might have been influenced by the latter's lost *Protreptic*.³³ On the other hand, by defining the notion of *physis* as inherited traits rather than a mode of living in harmony with nature, and by coupling it with the idea of philosophical practice, Galen situates himself in the Platonic-Aristotelian tradition and shows how experimental he is in his philosophical allegiances. Our author appears thus far as an intellectually diverse thinker, who favours doctrinal interpenetration rather than sectarian devotion.

Although some of the notions that Galen expresses up to this point are commonplace in the genre of the protreptic, especially the animal imagery and the role of *physis*, it is remarkable that he transposes them from theoretical or technical frameworks into a setting of practical ethics, giving them an intimate role to his reader's moral reform. In Galen's text, the protreptic elements open up direct channels of communication between the experienced advisor (i.e. author/narrator) and the less experienced recipient, whom Galen expects to start becoming alert and discriminating. For example, he frequently employs distancing and assimilation strategies, i.e. clever techniques which depict despicable or alternatively imitable groups of people whom the reader is advised to either imitate or avoid; in this way Galen prompts his audience to make the proper moral choices that are characteristic of their philosophical background and which differentiate them from animals, as we shall soon see in more detail.³⁴ Thus the employment of animal imagery in this context of the *Exhortation* clearly serves a hortatory purpose,³⁵ in contrast to its function in three ethical/psychological texts by Galen: *Character Traits*,³⁶ *On the Affections and Errors of the Soul*,³⁷ and *On the Doctrines of Hippocrates and Plato*³⁸ treat animals as representations of the uncontrollable impulses of the irrational faculty of the soul that need to be subjected to management by the rational part through obedience and habitual discipline. As such, they bear witness to their Platonic counterparts in the *Republic* 588c–d or *Phaedrus* 253c–254a and are inserted into Galen's argumentation

in order to gloss the philosophical doctrine of the division and function of the soul, rather than to instruct ethically through an intimate, hands-on, and reader-friendly manner. These three texts are surely targeted at readers who are more advanced in terms of philosophical background compared to the readers of the *Exhortation*, and whose needs are less to receive helpful advice on how to lead the good life than to help them conceptualise philosophical terms and theories on the soul.

We have started encountering cases in which the same elements (in this instance the animal imagery) recur in both technical passages of moral psychology and popular philosophical passages, but which at the same time seem to serve rather diverse purposes depending on each passage's context, intended meaning, and intellectual and/or moral level of its recipient. Such retexturing of similar material figures not just across Galen's own ethical and psychological essays, but also in relation to his technical works on how to maintain good health (as we shall see later on), and interestingly in comparison to other ancient protreptics. For instance, Iamblichus' *Protreptic* also suggests that reason renders humans divine and distinguishes them from all other creatures,³⁹ but he does this in order to preach through systematic argumentation the value of philosophy in general, and not to present the reader with a moral problematic by advancing rhetorical strategies for his enticement, as it happens in Galen's *Exhortation*.

Galen's text goes on, in chapter 2, to further stress the divide between irrationality and rationality, which is introduced by a set of strong rhetorical questions expressed in the sociative "we":

[I]s it not vile (αἰσχρόν), then, to neglect (ἀμελεῖν) the one part of us which we share with the gods, while busying ourselves (ἐσπουδακέναι)⁴⁰ with some other matter? To disregard (καταφρονοῦντα) the acquisition of Art, and entrust ourselves (ἐαυτὸν ἐπιτρέποντα) to Fate?⁴¹

The passage above, apart from suggesting that humans are capable of union with the divine, thus building on the assimilation strategy, also conveys the two categories of ethical evaluation, praise and blame, depending on the moral decisions we make as rational agents. The accumulation of terms denoting condemnation and public contempt awakens the reader's sense of social honour, and Galen's persuasion technique becomes more forceful once he inserts a word picture of *Tyche* and of Hermes together with their supporters. The literary *ekphrasis* of *Tyche* situates Galen within a long philosophical tradition, which dealt with the mutability of fortune in an effort to prove the necessity of emotional resilience achieved through philosophical training. Similar descriptions occur as far back as the *Tabula* of Cebes, a little-known work of the first century AD⁴²; in Plutarch's *On the Fortune of the Romans* (317C-318D), which presents a similar confrontation between Fortune and Virtue;⁴³ in Dio of Prusa's *Orations* LXIII-LXV (three self-contained discussions on fate); and in Favorinus' treatise *On Fortune*, with which Galen enters into dialogue, presumably as a result of the *ad hominem* attack he had made on Favorinus.⁴⁴

In relation to his predecessors, however, Galen dwells on the issue of fate by developing individual twists. An astonishing example of that is the way he incorporates in his essay *Avoiding Distress* the destructive fate that burnt to ashes a significant part of his library and medical instruments during the great fire of AD 192. I have shown elsewhere how the instability of human affairs in that context had a direct impact on the psychological state of the reader, in that it enlivened retrospectively the feeling of distress as a way of eventually healing it.⁴⁵ In the *Exhortation*, however, the dangers of fate do not seem to have any psychotherapeutic function; they are rather meant to guide readers by means of a delightful imagery, which in turn might hint at Galen's concern to make his narrative attractive to people still to be acquainted with the ups and downs of life, without disturbing them in any way.

The assumption of a young readership is reinforced by the similes we find in the description of Fortuna (Gr. *Tyche*) in particular, which help readers visualise its form and associated qualities. The ancients, Galen tells us, depicted *Tyche* as a woman with a rudder in her hands, a spherical support for her feet and with no eyes.⁴⁶ Trusting her is like committing the same sort of mistake as handing the rudder of a ship in danger of capsizing to a blind helmsman.⁴⁷ The image of the helmsman, which Galen adduces twice more in this text,⁴⁸ is of Platonic origin (with important Presocratic antecedents), and was often employed in ethical tracts of popular philosophy, especially Plutarch's own.⁴⁹

The two groups of followers, those who trust to luck and those who rely on rationality, are illustrated by historical and mythical examples as well as more general allegorical figures each time, making the text even more easily digestible. So the adherents of Fate are idle and ignorant and comprise not only Cyrus, Priam, and Dionysius but also a whole band of demagogues, courtesans, betrayers of friends, and even murderers.⁵⁰ Conversely, Hermes' chorus consists of noble and knowledgeable men of mild conduct, including geometers, mathematicians, philosophers, doctors, and scholars alongside architects, grammarians, and ultimately such great men as Socrates, Homer, Hippocrates, and Plato.⁵¹ Once set on this dual course, Galen exploits his protreptic moralism and makes brief encouraging or discouraging remarks to direct the reader more explicitly. In both cases he uses the second-person singular form of address and claims that careful examination of the band of Fortune will lead to loathing,⁵² whereas moral contemplation of Hermes' chorus will excite both emulation and adoration.⁵³

The reader is subtly prompted to identify with the followers of Hermes by the author's explanation that this god does not judge people on the basis of political reputation, nobility, and wealth, but on whether they lead a good life.⁵⁴ Good living or "εὖ ζῆν" is the target of ethical philosophy itself, and interestingly the identification of Hermes with a whole branch of philosophy is entirely consistent with the way Galen uses Hermes in his *Character Traits* as a figure who leads human beings to assimilation with the divine after teaching them how to despise above all worldly pleasures.⁵⁵ The affinities between the two works attest to a network of cross-references suitably adjusted to the twists and turns in the argument of each text. In addition to Hermes, the insertion of the anecdote about

Aristippus, a proverbial figure of self-sufficiency in ethical literature (especially in moral diatribes), lends legitimacy to Galen's ethical production. Aristippus is deployed both in Galen's *Avoiding Distress* and in Plutarch's *On the Tranquillity of the Soul*, although in the *Exhortation* Galen provides us with three interrelated stories about him and seems to draw from Posidonius' *Protreptic*.⁵⁶

Despite the fact that the paradigm of Aristippus was designed to show that material wealth was trivial and unimportant to human life,⁵⁷ many people who found themselves destitute committed suicide, as Galen emphasises.⁵⁸ The presentation of contradictory attitudes towards the loss of possessions points up the extent to which Galen differed from Callistus the grammarian, whom he cites in *Avoiding Distress* to highlight that he died of depression caused by the loss of his property. Galen, on the other hand, regardless of his own losses in the same disaster, continued cheerfully his normal activities.⁵⁹ Galen disapproves of people who neglect their spiritual condition and who are more preoccupied with worldly blessings; he considers them equal to the most worthless slave,⁶⁰ once again challenging his reader's sense of honour.⁶¹

In addition to this, Galen's moralism starts to share the acerbic features of Cynic philosophy not only in that it appropriates the opinions of Antisthenes and Diogenes, but above all in that he himself is walking in their footsteps when he sourly attacks rich and uneducated people for falling victim to the self-interest of flatterers:

[S]o perhaps the comparison of such men [sc. flatterers] to wells is not unreasonable; when a well, which once provided them with water, dries up, people lift up their clothes and urinate in it (ἀνασυράμενοι προσουροῦσι).⁶²

In a similar vein, Galen castigates people who boast of their noble descent, unaware of the fact that their nobility is like the coinage of a state, which has currency with its inhabitants but is counterfeit to everyone else.⁶³ By making a link to Antisthenes who also happened to be the originator of the philosophical protreptic,⁶⁴ Galen might be staking a claim to being his emulator and perhaps a reformer of the genre he introduced.

Besides traits of the Stoic-Cynic diatribe combined with those of the protreptic, Galen's account features characteristics of mainstream educational works and echoes in particular Plutarch's *On Reading the Poets*.⁶⁵ It is striking, for instance, that Galen quotes both from Euripides' *The Phoenician Women* (404–5) and Homer's *Iliad* (4.405), the most important school texts in that period,⁶⁶ which are also present in Plutarch's essay, and that he amends poetical lines to make them suit the moral message of his argumentation. This is a key pedagogical technique, which Plutarch applies in instructing young readers how they should interpret poetry in the morally upright way and benefit from it as a preliminary stage to philosophy. The recurring use of imperative forms of *akouein*, a didactic directive that is interpreted to mean not simply hearing but also critically considering what is being listened to, is a common trope in didactic communications, also present in Plutarch's essay.⁶⁷ In discussing the importance of eugenics, Galen argues that noble

ancestors instigate a desire to emulate their example,⁶⁸ interacting both verbally and conceptually, for example, with the near-contemporary *On the Education of Children*, an essay now considered pseudo-Plutarchan, though once thought to be authentic.⁶⁹ Furthermore, Galen's emphasis on the emulation of noble exemplars and the severe criticism that he applies to any moral misconduct contribute to his self-depiction as a supervisor of morals, whose role in overseeing and correcting the ethical failings of philosophical novices is crucial especially in his *On the Affections and Errors of the Soul*.⁷⁰ Finally, Galen's protreptic towards engagement with the arts resembles the introduction to Quintilian's *Institutes of Oratory* (1.9–10), a basic educational manual of the Roman Imperial period, which also begins with a protreptic concerning the study of the liberal arts. In the light of the above, we can see that Galen's *Exhortation* has a didactic nature and purpose and was intended to have an appeal as an educational text in the passing from secondary education to advanced studies.

In encouraging sensible people to practice the arts, Galen refers to Themistocles in particular as an example of a man who became a significant figure despite his lowly birth on his mother's side.⁷¹ The dictum attributed to Themistocles survives in Plutarch's *Sayings of Kings and Commanders* 187B and in Stobaeus' *Florilegium* (4, 29, 15), where it is attributed to Iphicrates instead. This misattribution may suggest Plutarch's influence on Galen (see *Life of Themistocles*, 1.1–4), given that Galen seems to have consulted two other moral works by the same author in this context, as noted above, and presumably also the *Life of Solon* 22.1 for his *Exhortation* 8.⁷² Stobaeus (4, 29, 21–2) informs us that there was a work by Plutarch entitled *Against Nobility* (*Katὰ ἐὐγενείας*) in which the dictum of Themistocles may have occurred, although this remains pure speculation, and it is safer to assume that Galen might have drawn on the *Life of Themistocles* instead.

At any rate, the dictum of Themistocles, over and above discounting the role of noble birth as a factor in ethical propriety, also reinforces the antithesis pride versus shame that is omnipresent in Galen's text from the beginning. Galen goes on to link this concept with a key topic in the cultural discourse of the period, namely ethnic identity. By referring to the case of the Scythian Anacharsis, who was admired for his wisdom despite his barbarian birth, Galen teaches that moral behaviour, an acquired state, raises men above nobility and ethnicity, inherited qualities that are totally beyond their control. That seems to be a recurrent issue in his *Exhortation*, treated also in the anecdotes of Aristippus previously discussed.⁷³ The Stoics believed that anything that is not "up to us" should not affect our individual happiness (this is their theory of the morally "indifferents"),⁷⁴ but Galen here revises the idea, claiming that what is not up to us should not play a role in any moral evaluation of us:

Once mocked as a barbarian and Scythian, Anacharsis said: "my fatherland disgraces me, but you disgrace your fatherland", a very fine response to a worthless person who regarded country as the only source of honour.⁷⁵

Before closing the first part of the essay, Galen raises the issue of beauty and how this can hinder young people from caring for their psychic condition. He employs moral exempla from Solon, Euripides, and Sappho, who all agreed that physical beauty did not guarantee happiness but rather threatened it. Additionally, Galen stresses that youth offers only temporary pleasures, and therefore he urges his young readers to develop special regard for the end of their life and appreciate old age.⁷⁶ Once more Galen assesses the impact of pre-philosophical/worldly externals, depending on whether they contribute to one's inner well-being or social adulation: e.g. the acquisition of money (χρηματισμός) from bodily charm is disgusting (αἰσχρός) and universally despised (διὰ παντὸς ἐπονείδιστος), but the money that comes from the art is free (ἐλευθέριος), respectable (ἔνδοξος), and reliable (βέβαιος).⁷⁷ That helps Galen exhort young men to look in the mirror and try to make their beautiful outward appearance fit their inner, moral one.⁷⁸ Here Galen is assuming the Socratic persona, as the same counsel is pronounced by Socrates himself notably in Plutarch's *Precepts of Marriage* 141D.⁷⁹ By neglecting their souls, human agents are worthy of being spat upon, as the exemplum of the Cynic Diogenes suggests.⁸⁰ Galen filters this through his own protreptic voice:

So, young man (ὦ μεῖράκιον), do not allow yourself to become worthy of being spat at (προσπύεσθαι), even if you think that everything else about you is splendid.⁸¹

It is important to discuss Galen's authority in the context of his exhortation. His address to young men is informed by a provocatively extravagant, almost paternal, tone: "Come then, my children, you who now hear my words: dedicate yourselves at once to the arts",⁸² which eventually becomes so insistent as to allow but little freedom of choice to the young men. This address provides the audience with a sense of security that Galen's advice will not only protect them against charlatans but to a large extent direct them towards the practice of those arts that are beneficial to life.⁸³ Both the appellations Galen uses above ("μεῖράκια" and "παῖδες") and the strong enticement towards progression to the liberal arts point to the fact that this work is addressed to adolescents around 14 years old, who are about to finish or have just finished their primary education and will now embark upon general, secondary education (*enkyklios paideia*)⁸⁴ – a preliminary to any activity in life – with a view to take up higher studies that will help them secure a noble profession in life, such as medicine.

Finally, Galen also works on the intellectual state of his young readers by subtly putting across the idea to them that the various forms of athletic activity differ from the arts. This he achieves by assuring them that Galen himself believes in their capacity for discernment⁸⁵ and also by warning them that they need some additional instruction on the crucial issue of athletics.⁸⁶ The first section is rounded off in the form of ring composition with a recapitulatory passage treating man's relationship to gods and animals respectively. However repetitive this might seem to modern tastes, it illustrates the authoritative voice of the author,

who communicates his ethical teachings assertively and in plain language, with blunt analogies and conditional clauses, meant to achieve universal applicability to the collective readership of young men:

The human race, my children (ὦ παῖδες), has something in common with both the gods and the irrational beasts; with the former to the extent that it is possessed of reason, with the latter to the extent that it is mortal. It is better then to realise our kinship with the greater of these and to take care of education (ἐπιμελήσασθαι παιδείας), by which we may attain the greatest of goods, if we apply it successfully, and, if unsuccessfully, at least we will not suffer the shame of being inferior to beasts without reason.⁸⁷

The exhortatory register in Galen differs from the mild didactic spirit of Plutarch, especially by comparison with the latter's two main educational essays, *On Reading the Poets* and *On Listening to Lectures*. Although on the whole all three works address the same concerns about the character development of young people about to embark on their philosophical studies, Plutarch is more philosophical than rhetorical and does not fail to discuss *inter alia* the philosophical significance of silence, the role of envy, or the power of self-exploration.⁸⁸ Galen's rhetorical exuberance, by contrast, directs the reader in a more robust manner, presumably in order to signal more compellingly the need for philosophical engagement. The difference in tone may also tell us something about the authors' public profiles as perceived by their respective contemporaries or even about the way they wished to be seen by them. By contrast to Plutarch, who was well known for having taught philosophy all his life both in Greece and in Rome, Galen was primarily respected as a physician or at best – according to him – as a physician-cum-philosopher.⁸⁹ Could Galen's exuberant rhetoric (partly) hint at his ambitions to become a philosophical luminary in the area of practical ethics?

Chapters 9–14: the dangers of athletics

I now turn to the second part of the essay to show that Galen here tends to insert even more manipulative material than merely the protreptic sort of advice we have seen in the previous section and, consequently, that his tone turns out to be polemical rather than demonstrative. The author appears to follow the traditional division of the protreptic into one section that demonstrates the value of philosophy, education, and the arts (ἐνδεικτικόν) and another that refutes inimical arguments against them (ἀπελεγκτικόν).⁹⁰ Nevertheless, in this second part of the *Exhortation*, instead of testing the validity of the accusations against the arts, Galen levels an attack against hypermasculinity and athletics, and rebukes the reader for succumbing to any such wrong choices. These new topics of discussion will have important implications for his overarching argument on the practicability and value of ethical philosophy, especially in that they help clarify his view on the attention that should be drawn to the care of the soul as opposed to the excessive care of the body.

On another level, it should be stated at the outset that Galen's discussion of extreme bodily exercise reflects and indeed critically responds to the importance of athletics as a cultural and philosophical field by the second century AD.⁹¹ Some Imperial philosophers tended to advocate the inclusion of gymnastics into the liberal curriculum (Maximus of Tyre is a good example)⁹² emphasising its professed benefit for the soul, but in the *Exhortation*, Galen seeks to favour medicine at the expense of gymnastics, considering the former an ideal guarantor of physical and mental health, a view that fitted his conceptualisation of medicine as a philosophising area of study and practice. Galen's attack on athletics has been correctly interpreted as an efficient way on his part to valorise medicine as an educational discipline and consolidate its place in the intellectual landscape of the High Roman Empire;⁹³ that may well be right, but, as I hope to show in this chapter and in my project more generally, Galen's rhetoric must surely have a social, moralising purpose too.

Dismissing the sociative "we" and assuming the second person indicative or imperative form of address, Galen embarks upon a rejection of athletics in so far as this interferes with the care of the soul. He holds that the most excellent men attract divine praise not for their physical competence but their artistic accomplishments.⁹⁴ Such was the case with Socrates, Lycurgus, and Archilochus, who were all praised by Apollo. In corroboration of this statement Galen interjects a direct aside to eliminate any hesitation on the reader's part: "if you do not wish to listen to me, at least have some respect for the Pythian Apollo".⁹⁵ Galen's imposing voice taps into his reader's religious sensibilities, and a bit further on he goes on to question the readers' mental capacities too by demanding they reflect on the various titles conferred upon athletes, a task that Galen sees as destined to fail: "Tell me, then, about the honorary addressing of the athletes. But you will not tell me, because you simply cannot tell me . . .".⁹⁶ Here Galen directly accuses the reader of succumbing to popular opinion and going along with the praise of the crowd,⁹⁷ an accusation that seems to be a *topos* in protreptics.⁹⁸

In continuing his criticism, Galen asks how the reader can arrogantly set himself up as an arbiter of important matters, going against the judgement of men wiser than himself,⁹⁹ all of whom have condemned physical training. He elects to quote their opinions, accompanying them with various grammatical forms of the verb *akouein*. This serves Galen's philosophical aims, because, as we have seen, it carries the meaning of rationally processing what is being heard after dismissing superficial impressions. It is used in this way in educational contexts, where it is often translatable as "to consider", as in this case.

Plutarch's *On Reading the Poets* is again a good *comparandum* not just in respect of stressing the importance of *akouein* in the educational training of young men, but also in that it dwells on issues relating to literary criticism, treating specifically the correlation between poetry and philosophy. In contrast to Plato's rejection of poetry on the grounds that it inculcated immorality in young readers, Plutarch adopted the study of poetry in his educational agenda, treating it as a preliminary stage to philosophy.¹⁰⁰ Galen not only seems aware of the tension between poetry and philosophy but also enters into debate with this tradition, comparing the two

fields on the basis of their opposition to athletics. In fact, Galen's treatment is all the more anchored, given that he reveals the opinion of medicine too, which also condemns athletics, as the quotations from Hippocrates attest.¹⁰¹

The accumulated testimonies from various authorities that Galen uses to argue against athletics, although permissible in exhortatory and didactic settings, does not seem to meet his authorial aims, since he admits that he was compelled to resort to such rhetorical means in order to benefit those yielding to the vacuities of popular reputation.¹⁰² In this instance, Galen renounces the identity of a rhetor and presents himself as a lover of truth,¹⁰³ a philosophical man with a social vocation as a mentor for his contemporaries. Such self-apologetics probably reveal a concern that he may appear more rhetorical than necessary, a common preoccupation of many moral philosophers and a fear he also expresses in his medical works. Yet Galen's rhetorical emphases in the *Exhortation* are not inept techniques, but effective aids in the philosophical training of the young students.

In claiming that athletes are totally ignorant of the existence of their souls, constantly busying themselves with flesh and blood matters, Galen depicts them as extinguishing their capacity for rational contemplation and descending to the level of irrational animals.¹⁰⁴ Identifying athletes with pigs in particular¹⁰⁵ is a technique which helps Galen to correlate what he had previously described as the non-rational nature of athletes' souls with animal behaviour.¹⁰⁶ There is a similar passage in *Character Traits*,¹⁰⁷ which equates physical preoccupations with the life of a pig and spiritual concerns with an angelic existence. Interestingly, abstaining from immoderate vices, such as over-eating or -drinking and sexual intercourse, also becomes a crucial part of the profile of the philosophically minded physician in *The Best Physician is also a Philosopher*.¹⁰⁸

Another aspect that seems crucial in Galen's exposition in respect to his construction of authority is the relationship he builds between himself and Hippocrates. The abundant Hippocratic quotations in the second section of the essay are not just back-up from an ancient thinker reinforcing Galen's argumentation; they are supporting Galen's voice and adding persuasiveness to his claims. That is reflected in the fact that Galen is careful not just to cite but above all to comment on and challenge some of the Hippocratic aphorisms, which ultimately leaves a very strong impression;¹⁰⁹ this is apparent in his use of pertinent vocabulary describing the physical symptoms of an athletic regime¹¹⁰ and in the exposition of the mechanics of the body. It is interesting, however, that this part of the treatise does not get bogged down with any medical trifles not even any technical physiological terms, which might confound the inexperienced reader. In chapter 11 for example, Galen provides the reader with a straightforward clarification to explicate a Hippocratic aphorism that involves the distinction between state and condition of the body.¹¹¹ This is a good indicator of the fact that Galen's audience do not yet have any medical background or familiarity with the Hippocratic corpus; otherwise such explications would have been redundant.

By referring to the athletes' somatic deformations, Galen subverts the notion of their beauty, arguing that their bodily strength is of no significant value other than helping them to perform agricultural activities.¹¹² The sarcastic tone continues

in his assertion that the athletes' resistance to extreme weather equates them to new-born babies,¹¹³ and he mocks them for lying all day long in dust and washing in muck.¹¹⁴ Such polemical comments are designed to undermine the self-esteem of athletes and, in order to conclude that athletics are of no use in any practical context in human life, Galen employs a didactic myth in verse which preaches that athletic distinction is, in fact, not an accomplishment of humans but of animals.¹¹⁵ Finally, he states that, unlike a lifelong dedication to the arts, he does not believe that athletics can be a way of earning a living,¹¹⁶ and he classifies it in the category of the less-respected banausic arts, whereas medicine comes under the high arts, i.e. the ones that can mitigate the bestiality of the soul.¹¹⁷ This final remark in the surviving part of the essay shows the moralising dimensions that Galen credits to medicine. Thus, by urging the reader towards a well-defined cluster of habits, he corroborates his role as a physician of body and soul alike.

Ethics in the *Exhortation* and in texts focusing on the mechanics of the body

The best constitution of the human body and its hygiene and physical exercise are vital issues in Galen's naturalistic thought, which he discusses in a group of technical works.¹¹⁸ In this section, I would like to explore briefly some cases of material common both to these works and the *Exhortation* in an attempt to illuminate Galen's moralising twists in the latter text and further stress how his ethical pronouncements require subtle transformations in order to resonate with his young audience and the requirements of his philosophical exposition.

The first example comes from the short essay *Good Condition*; here Galen examines the definition of "good condition" in cases where reference is made to an individual's nature, suggesting that one should add the name of the person, for instance "Dion's good condition" or "Milo's good condition".¹¹⁹ Milo of Croton was a well-known wrestler of the sixth century BC (considered a follower of Pythagoras), whom Galen compares in this context to Heracles and Achilles, both representing positive cases of good condition in the unqualified sense. However, subsequently he twice adduces the authority of Hippocrates to warn against extreme bodily states: "Among people who take gymnastic exercise, the extremes of good condition are dangerous" and "The athletic state is not natural; better the healthy condition".¹²⁰ Both of these Hippocratic statements each occur twice in the *Exhortation*,¹²¹ and Hercules too is used here as a positive model of physical resilience.¹²² In the *Exhortation*, however, the figure of Milo is treated in the most negative fashion, as Galen devotes a remarkable amount of space to showing that Milo's physical achievements were a manifestation of incredible stupidity,¹²³ linked to the hero's servile sacrifice of his soul¹²⁴ (which Galen calls "worthless").¹²⁵ Moreover, Galen depicts Milo as devoid of rationality, making his approach to life appear useless in comparison to Themistocles' wisdom.¹²⁶ Those reconfigurings reflect Galen's moralising input in his *Exhortation*, a text concerned with distancing its young readers from an excessive preoccupation with the body.

Galen's interest in depicting physical exercise through an ethical lens is also seen in his essay *The Exercise with the Small Ball*, where again the degree of moralising is restrained in relation to his *Exhortation*. This essay is addressed to Epigenes, a man of superlative physical condition – by Galen's own account –, to whom our author proposes the most superior kind of physical activity, i.e. exercise with the small ball. The precise nature of this sport is as yet unclear,¹²⁷ but what is interesting is that Galen embraces it because it does not just exercise the body, but above all delights the soul.¹²⁸ This is, in fact, a recurrent motif in this essay, emphasising the soul's superiority to the body¹²⁹ and stressing that this form of exercise assists both body and soul to achieve their respective excellences.¹³⁰ By contrast, Galen condemns wrestling on the grounds that it renders the intellect idle and sleepy, promoting body-building rather than the cultivation of virtue.¹³¹ In this connection, Galen claims that if one engages with wrestling, one's chances of a brilliant generalship or political power are minimal and that it would be better to assign such public duties to pigs than to wrestlers.¹³² The material here echoes a certain passage from the second part of the *Exhortation* where, as we have seen, Galen remonstrates with athletes for their body-building on the grounds that this extinguishes their rational capacities and makes pigs of them.¹³³

Thus we can see that Galen reworks very similar material in the moral context of the *Exhortation* but in a manner that makes his argumentation more powerful, especially through the use of more direct condemnation devices. The retexturing patterns also show that Galen's principles of philosophical moderation in relation to the care of the body is an overarching feature of his moralising medicine, which controls all other types of bodily knowledge. That is quite clear, for instance, in his *On the Preservation of Health*, a work dedicated to health care, but not free from moral overtones. In a series of recommendations on physical health for adolescents, Galen once again strikes a balance between lack of exercise and extreme gymnastics and stresses how this balance has a direct bearing on a young man's character formation, with the right balance ensuring orderly behaviour (εὐκοσμία) and ready obedience (εὐπείθεια).¹³⁴

Intended audience of the *Exhortation*

As we have seen, in the first section of the treatise, Galen refers to passions or flaws that are especially predictable to young men such as deriving pride from family distinction, wealth, physical beauty, or falling victim to flatterers, sexual desire, and excessive exercise, all of which might hinder them from leading a philosophically minded life. This section is populated with quotations from epic, lyric, and tragic poems with which young readers would have been well familiar from their literary studies. At the same time Galen makes extensive use of anecdotes and sayings about famous men from Greek history, mythology, and philosophy, which were important features of the general curriculum (*enkyklios paideia*), as shown. By using these, Galen attempts to encourage young men to fully appreciate the importance of education, urging them to embark upon the study of the arts as they move on to a more advanced stage in their learning. Philosophy is of

course the next step they should take, but the end of the second section of the treatise makes it clear that Galen envisages the work to operate as an exhortation to the study of medicine in particular, which Galen considers the most conspicuous art of all, and which normally comes alongside philosophical studies or just after them.¹³⁵ Although it is surely delusive to say with confidence that this is the kind of audience that actually read the *Exhortation*, it is certainly true that in this work Galen constructs or conjures up images of a young audience, intending it to act as an educational manual of considerable moralising intensification for prospective medical students.

Conclusion

In this chapter, I have argued that Galen's *Exhortation to the Study of Medicine* is not a conventional epideictic piece, but one in which rhetoric to a large extent facilitates philosophical instruction. As I have tried to show, the work abounds in educational elements, which are consistent with its more developed moralising in relation to what we get in other works treating the mechanics of the body. We have also seen how Galen's authority imposes itself on what Galen expects to be an inexperienced, young audience in an attempt to initiate them into some of the tenets of philosophical training with a view to leading them to study medicine. This accounts for Galen's avoidance of theoretical and technical material, which is replaced by practical counsel instead. The function of Galen's protreptic is less to develop independent thought than to arouse desire, eliminate erroneous impressions, and provide safe choices to young people moving from literary and rhetorical studies to a philosophical education, presumably with a view to becoming physicians later on.

The Socratic protreptic entails elenctic admonition, Aristotle's (fragmentary) protreptic elaborate arguments and a concluding peroration, Seneca's protreptic is an epistolary refutation of Posidonius, while that of Iamblichus is an anthology of protreptics in the form of exegesis. Galen's protreptic is of a different sort, not only in that it is an authoritative monologue verging on a traditional diatribe, but mostly because of its peculiar moralising rhetoric, which seems to cast a wide net, thus making it a public rather than an intimate piece. Its scope is also significant because of its close interplay with a good number of philosophical sources, not just the later Stoic tradition, such as Posidonius and Seneca, but also with the Platonic and Aristotelian tradition, and most notably Plutarch; it is this richness and the diversity of Galen's treatment of moral issues that makes him stand out in ancient philosophical culture. The Lamprias catalogue, an ancient list of Plutarch's works, informs us that Plutarch himself produced two protreptics, *An Exhortation to Philosophy, Addressed to a Rich Young Man* (no. 207) and *An Exhortation to Philosophy, Addressed to Asclepiades of Pergamum* (no. 214), both of them lost. Attempting to prove that Galen's *Exhortation* drew on these two works must surely remain a matter of speculation, but, on the basis of the other close parallels shared between the two authors, I hope at least to have sparked interest in the possibility of Galen trying to enter the moral legacy that Plutarch inherited and enriched, and to enjoy (some of) the latter's popularity as a startling

moralist of the Graeco-Roman period. Even if Galen's affiliation to Plutarch is not conscious or direct (which I think is), it does have something to tell us about the former's sustained work in the area of moral philosophy and its envisaged impact on his contemporary philosophical and intellectual landscape.

Notes

- * I would like to thank Michael Trapp, Katarzyna Jazdzewska, and the anonymous reviewer for their insightful suggestions and the audiences at King's College London (2014), University of St Andrews (2015), and Johannes Gutenberg-Universität in Mainz (2017) for comments on oral versions of this chapter.
- 1 Galen, *Lib. Prop.*, 9, ed. Kühn (1830) XIX.38.14–15 = ed. Müller (1891) II.115.13 = ed. Boudon-Millot (2007) 163.15: εἰς τὸ Μηνοδότου Σεβήρῳ προτρεπτικὸς ἐπὶ ἰατρικὴν. The quoted passages from Galen follow the most recent edition.
- 2 St Jerome, *Adv. Jov.* 2.11, ed. Migne (1883) XXIII.300.41–2: *Exhortatione medicinae*.
- 3 Ḥunayn ibn Ishāq, *Epistle*, 119, ed. and tr. Lamoreaux (2016) 112: “Exhortation to the Learning of Medicine”. See also Lamoreaux (2016: 112, n. on §119), who mentions that one manuscript reads: “Exhortation to the Teaching of Medicine”.
- 4 Galen, *Protr.*, ed. Aldina (1525) 1r: Γαληνοῦ παραφράστου τοῦ Μηνοδότου προτρεπτικὸς λόγος ἐπὶ τὰς τέχνας. On the textual tradition of the work with specific remarks on the Aldine readings, see Wenkebach (1933). Specifically on the essay's title, see Barigazzi (1979: 157–63); cf. Schöne (1920: 148–56).
- 5 It is notable in this respect that there is an Arabic manuscript of the twelfth century which preserves a summary of the first section of the essay alone.
- 6 Some scholars have assumed that Galen's essay *The Capacities of the Soul Depend on the Mixtures of the Body* was the second section of the *Exhortation to the Study of Medicine*, but Bazou (2011: 33–6) is right to suggest that, despite having a related theme, the two works were otherwise independent essays. Singer (1997: 407) proposes that the final sentence of the *Exhortation* might be pointing to *Thrasybulus*. I believe that the missing part of the *Exhortation* did not contain a different treatise but the second section of the same treatise; this interpretation is mainly based on the expression that Galen uses in finishing the section, which indicates a change of topic that will be dealt with in a separate part that follows on, *Protr.* 14, ed. Kühn (1821) I.39.10 = ed. Boudon (2000) 117.18: τοῦτο δ' αὐτὸ δεικτέον ἐφεξῆς. There is a close parallel in Galen's *On the Capacities of Foodstuffs*, 3, ed. Kühn (1825) VI.644.2 = ed. Wilkins (2013) 163.13–14, which ends with ῥητέον ἐφεξῆς as an expression that alerts the reader to a new section within the same work. This is a common practice in other medical authors as well, for instance Oribasios, *Coll. Med.*, 7.1.7, ed. Raeder (1928) I.195.10 or Aetios of Amida, *Tetr.*, 16.60, ed. Zervos (1901) 83.1–2.
- 7 Boudon (2000: 6). Apart from Boudon, some of the most important editions are Marquardt (1884); Kaibel (1894, repr. 1963); Wenkebach (1935); and Barigazzi (1991).
- 8 Much scholarly emphasis has been on the humoral aetiology behind mental disorders (e.g. hysteria, mania, melancholy, etc.). The focus in this project will be on moral passions and not mental disturbances, which are not “diseases of the soul” in the same way that passions are. Furthermore, Jouanna (2012) has discussed Galen's medical ethics in relation to Hippocratic medical ethics; however, there is still no comprehensive account of Galen's medical deontology in its own right or its connection with practical philosophy. The desideratum was noted by Kudlien as early as 1970, but it has never been fully addressed since then; see Kudlien (1970b).
- 9 Cf. Szarmach (1990–2).
- 10 For the genre of the protreptic in antiquity, see e.g. Hartlich (1889); Burgess (1902: 228–34); Slings (1995); and Slings (1999: 59–164). Cf. Schneeweiss (2005: 14–15, 18–19) and Schenkeveld (1997: 204–13). Specifically for Galen's protreptic, see

- Hartlich (1889: 316–26). For the caveats regarding the generic classification of philosophic protreptic, see the study by Jordan (1986).
- 11 For Iamblichus' *Protrepticus*, see for instance Flashar (1965).
 - 12 The protreptic is very close to the genre of the *paraenesis*, and apart from isolated cases (for instance Clement of Alexandria, *Paedagogus* 1.1), classical philosophers did not on the whole distinguish between the two genres, very often merging them instead. See Malherbe (1986: 121–7). Regarding the modern differentiation of the two genres, Stowers (1986: 92) uses “protreptic in reference to hortatory literature that calls the audience to a new and different way of life, and *paraenesis* for advice and exhortation to continue in a certain way of life. The terms, however, were used this way only sometimes and not consistently in antiquity”.
 - 13 Burgess (1902: 228–9).
 - 14 On Galen and his contemporary readers in general, see Johnson (2010: 74–97).
 - 15 Galen, *Protr.*, 1, ed. Kühn (1821) I.1.5–6 = ed. Boudon (2000) 84.1–2. This was a traditional Stoic *topos* with particular amplification in Xenophon's *Oeconomicus* 13.6–9 and *Memorabilia* 1.4.9–14. For Galen's scepticism, see De Lacy (1991: 283–306).
 - 16 The same technique can be found in *Ind.*, 27, eds. Kotzia-Sotiroudis (2010) 79.321–325 = 71, eds. Boudon-Millot, Jouanna, Pietrobelli (2010) 21.17–22.2.
 - 17 Galen, *Protr.*, 1, ed. Kühn (1821) I.2–3 = ed. Boudon (2000) 84.8–13.
 - 18 See for instance Plutarch, *De esu*, 2.6.
 - 19 Galen, *PHP*, 4.7, ed. Kühn (1823) V.424.7–12 = ed. De Lacy (1978) I.288.14–18, and Galen, *PHP*, 5.6, ed. Kühn (1823) V.476.6–477.9 = ed. De Lacy (1978) I.332.29–334.15.
 - 20 Newmyer (2005). The issue goes back to the early Peripatos, e.g. Aristotle's *EN*, I.13, 1102a26–1103a3. Cf. Aristotle, *On the Soul*, II.3, 414b28 ff. See also Books 8 and 9 of the Aristotelian *History of Animals*. Fortenbaugh (2011) discusses the Peripatetics' place in the ancient discussion on animal intelligence with special reference to Theophrastus and Strato of Lampsacus.
 - 21 Galen, *Protr.*, 1, ed. Kühn (1821) I.2.9–10 = ed. Boudon (2000) 85.3.
 - 22 E.g. Plutarch, *De soll. an.*, 970B–C, where it is stated that terrestrial and earth-born animals seem cleverer than sea creatures. On the other hand, references to bees may be found in 967B, 976D, 980B, 981B, and 982F, and references to spiders in 966E and 974A–B.
 - 23 The animal examples involving bees, ants, spiders, and swallows are shared among other authors as well, for example Cicero, Philo, Pliny the Elder, and Aelian. Dickerman (1911) suggested that they all draw on a common source (presumably Alcmaeon of Croton, fifth century BC). Even in that case, one cannot exclude the possibility of Galen having read and directly quoted Plutarch instead of an earlier source, which might have been both less easily available for him to consult and less well-preserved. In Xenophontos (2016b), I argue for Galen's dependence on Plutarch in more detail. Cf. Xenophontos (2016a) regarding Plutarch's notions on ethical education and moralising.
 - 24 E.g. Galen, *Opt. Doct.*, ed. Kühn (1821) I.41.4 = ed. Barigazzi (1991) 92.12; Galen, *PHP*, 3.2, ed. Kühn (1823) V.5.300 = ed. De Lacy (1978) I.182.24–5.
 - 25 Cf. also Plutarch's *Whether Beasts are Rational* 991D–F, where animals are said to be naturally attuned to learning. I thank Katarzyna Jazdzewska for bringing this point to my attention.
 - 26 Galen, *Protr.*, 1, ed. Kühn (1821) I.2.7 = ed. Boudon (2000) 84.14: προαιρέσει.
 - 27 Galen, *Protr.*, 1, ed. Kühn (1821) I.2.6 = ed. Boudon (2000) 84.14: φύσει.
 - 28 See, for instance, Chamberlain (1984).
 - 29 Galen, *Protr.*, 1, ed. Kühn (1821) I.2.8 = ed. Boudon (2000) 85.1–2: ὁ δ' ἄνθρωπος οὔτε τινὸς τῶν παρ' ἐκείνοις ἀμελέτητος (“but it is not just that man is practised in all their arts”); Galen, *Protr.*, 1, ed. Kühn (1821) I.2.10 = ed. Boudon (2000) 85.4: οὐκ ἀνάσκητός ἐστι (“demonstrating considerable skill”). Translations of the *Exhortation*

come from Singer (1997) with modifications, as his translation is based on the edition by Marquardt (1884) and the one by Barigazzi (1991).

- 30 Galen, *Protr.*, 1, ed. Kühn (1821) I.3.1–2 = ed. Boudon (2000) 85.11–12.
- 31 Cf. Nikolaidis (2002: 22–3), who warns that *Letter* 90 should not be taken as a protreptic in the strict sense, despite the features it shares with traditional protreptics.
- 32 Seneca, *Ep.*, 90.7; cf. 90.11–12, 90.17–18. See one of the latest studies by van Nuffelen and van Hoof (2013). According to Proclus, together with persuasion, dissuasion, “midwifery”, praise, and blame, refutation is one of the ways of bringing man to self-knowledge (e.g. *Alc. I*, 8.13–14).
- 33 Cf. Rainfurt (1904: 56) and Boudon (2000: 15–16).
- 34 Cf. the notion of “active reading” in Meeusen (Chapter 5) in this volume.
- 35 In this connection, von Staden (2003: 18–19) refers to Galen’s use of *alogos* as a term of ridicule and abuse.
- 36 Galen, *Mor.*, ed. Kraus (1939) 28; cf. ed. Kraus (1939) 42; English translation by Mattock (1972) and Davies in Singer (2014).
- 37 Galen, *Aff. Dig.*, 1.6, ed. Kühn (1823) V.27.6–28.3 = ed. De Boer (1937) 19.8–20.
- 38 Galen, *PHP*, 2.3–12, ed. Kühn (1823) V.515.1–518.2 = De Lacy (1978) I.368.12–370.23.
- 39 Iamblichus, *Protr.*, 8, ed. Pistelli (1888) 48.9–21, transl. Johnson (1988):

Nothing therefore either divine or blessed subsists in man except the element of intellect and insight, which alone is worthy of any attention or study: for this alone of us is immortal and divine. And, moreover, the fact that we are able to participate in this intellectual power, though our life is naturally miserable and grievous, and yet is tempered with so much that is sensuously agreeable, demonstrates that in relation to other things on the earth man seems to be a God. For our intellect is a God, and our mortal life is a participant of a certain deity, as either Hermotimus or Anaxagoras said. Wherefore we must either philosophize – or, bidding farewell to physical life, go from this place, because all other things are full of trifles and rubbish.

- 40 ἐσπουδακέναι with Barigazzi (1991) following Kaibel (1894); Boudon (2000) prints ἐσπευκέναι in line with the Aldine edition.
- 41 Galen, *Protr.*, 2, ed. Kühn (1821) I.3.5–8 = ed. Boudon (2000) 85.16–19.
- 42 E.g. Cebes, *Tabula* 7.1–3, 9.4, 18.1–3. The standard edition is that of Prächter (1893); more recent editions in Pesce (1982) and Fitzgerald and White (1983). The *Tabula* should be read alongside the excellent discussion of Trapp (1997), where additional references can be found.
- 43 Interestingly, the part of the treatise that directly contrasts Fortune and Virtue is the opening, 316C ff.
- 44 Succinctly in Boudon-Millot (2007: 12–14). Favorinus was a contemporary of Galen, whom the latter lambasted in his ethical work *Against Favorinus’ Attack on Socrates* as well as his *The Best Method of Teaching*.
- 45 Xenophontos (2014).
- 46 Galen, *Protr.*, 2, ed. Kühn (1821) I.3.9–13 = ed. Boudon (2000) 85.20–86.5.
- 47 Galen, *Protr.*, 2, ed. Kühn (1821) I.3.14–17 = ed. Boudon (2000) 85.5–8.
- 48 Galen, *Protr.*, 8, ed. Kühn (1821) I.16.14–16 = ed. Boudon (2000) 97.6–8; Galen, *Protr.*, 10, ed. Kühn (1821) I.23.8–9 = ed. Boudon (2000) 102.20.
- 49 See, for instance, Plutarch’s *De virt. mor.* 452B, *De tranq. an.* 475E–F, *Quaest. conv.* 663D, *An seni* 787D, *Praec. ger. reip.* 801C–D.
- 50 Galen, *Protr.*, 4, ed. Kühn (1821) I.5.13–6.8 = ed. Boudon (2000) 87.19–88.11.
- 51 Galen, *Protr.*, 5, ed. Kühn (1821) I.6.15–8.6 = ed. Boudon (2000) 88.19–89.21. The assimilation strategy seems to be a common practice employed by Galen; e.g. in his *Recognising the Best Physician*, he claims that it befits heroes and rich men to learn medicine, 9, ed. Iskandar (1988) 111.1–2.

- 52 Galen, *Protr.*, 4, ed. Kühn (1821) I.6.10 = ed. Boudon (2000) 88.13–14: . . . μισήσεις ὅλως τὸν χορόν.
- 53 Galen, *Protr.*, 5, ed. Kühn (1821) I.8.1–3 = ed. Boudon (2000) 89.16–18: Τοῦτον . . . τὸν χορόν . . . οὐ μόνον ζηλώσεις, ἀλλὰ καὶ προσκυνήσεις.
- 54 Galen, *Protr.*, 5, ed. Kühn (1821) I.7.15–16 = ed. Boudon (2000) 89.12–13: τοὺς καλῶς μὲν βιοῦντας; cf. Galen, *Protr.*, 3, ed. Kühn (1821) I.5.2–4 = ed. Boudon (2000) 87.7–9.
- 55 Galen, *Mor.*, ed. Kraus (1939) 40–41.
- 56 Boudon-Millot (2007: 15–16).
- 57 Cf. Galen, *Opt. Med.*, ed. Kühn (1821) I.58.2–4 = ed. Boudon-Millot (2007) 288.14–17.
- 58 Galen, *Protr.*, 6, ed. Kühn (1821) I.9.6–10 = ed. Boudon (2000) 91.1–5.
- 59 Galen, *Ind.*, 3, eds. Kotzia-Sotiroudis (2010) 67.29–32 = 7, eds. Boudon-Millot, Jouanna, Pietrobelli (2010) 4.6–10; Galen, *Ind.*, 2, eds. Kotzia-Sotiroudis (2010) 66.12 = 3, eds. Boudon-Millot, Jouanna, Pietrobelli (2010) 3.1–2.
- 60 Galen, *Protr.*, 6, ed. Kühn (1821) I.10.8 = ed. Boudon (2000) 91.22.
- 61 See αἰσχρόν (“despicable”), ἡτιμάκασιν (“they disgraced”), ἀποβλήτοις τῶν οἰκετῶν ἐοίκασιν (“they are equivalent to the reject servants”), all in *Protr.*, 6, ed. Kühn (1821) I.9–11 = ed. Boudon (2000) 91, and also in the passage cited above. Similarly in his introduction to *Opt. Med. Cogn.*, 1, ed. Iskandar (1988) 42.5–9 and *Opt. Med. Cogn.*, 9, ed. Iskandar (1988) 111.5–12; and his *San. Tu.*, 5.1, ed. Kühn (1823) VI.311.9–312.9 = ed. Koch (1923) 137.26–138.5.
- 62 Galen, *Protr.*, 6, ed. Kühn (1821) I.11.3–7 = ed. Boudon (2000) 92.14–17.
- 63 Galen, *Protr.*, 7, ed. Kühn (1821) I.11.7–11 = ed. Boudon (2000) 93.1–7.
- 64 Burgess (1902: 234); Hartlich (1889: 225–6); and Gorgemanns (2001: 469–70).
- 65 On Galen's attitude to Greek poetic tradition in his *On the Doctrines of Hippocrates and Plato*, see De Lacy (1966). Cf. Rosen (2013).
- 66 Cribiore (1996), Morgan (1998: 50–89).
- 67 Galen, *Protr.*, 10, ed. Kühn (1821) I.23.14 = ed. Boudon (2000) 103.6: ἄκουσον; Galen, *Protr.*, 10, ed. Kühn (1821) I.24.9 = ed. Boudon (2000) 103.18: ἄκουε πάλιν; Galen, *Protr.*, 10, ed. Kühn (1821) I.24.13 = ed. Boudon (2000) 104.4: ἀκούειν ἐθέλεις; Galen, *Protr.*, 10, ed. Kühn (1821) I.24.10 = ed. Boudon (2000) 104.5: ἄκουε πάλιν; Galen, *Protr.*, 10, ed. Kühn (1821) I.25.6 = ed. Boudon (2000) 104.15: ἀκούση. Cf. Schenkeveld (1992).
- 68 Galen, *Protr.*, 7, ed. Kühn (1821) I.12–10 = ed. Boudon (2000) 93.15–16: πρὸς οἰκεῖον παράδειγμα τὸν ζῆλον ἡμῖν γίνεσθαι.
- 69 In Xenophontos (2016b), I discuss the similarities between the two works, suggesting a *terminus ante quem* for the *On the Education of Children* in the light of Galen's *Exhortation*. It is true that the same thought appears in other moral(ising) texts too, e.g. in Cicero, *For Lucius Murena* 66: “you said that you had a domestic example to imitate” (domesticum te habere dixisti exemplum ad imitandum), but it is more reasonable to assume that Galen was more familiar with near-contemporary Greek sources rather than earlier, Latin ones. The issue of Galen's knowledge of Latin is still not sufficiently explored; see, for example, Herbst (1911: 137–8).
- 70 Galen, *Aff. Dig.*, 10, ed. Kühn (1823) V.52.18–53.9 = ed. De Boer (1937) 35.9–16, transl. Singer (2014):

Those, however, who are in the grip of moderate affections, and are thus able to recognize a little of the truth of the above statements, if, as I have previously said, they appoint a monitor or tutor, who, by constant reminders, by criticism, by exhortation and encouragement to hold back from the stronger affections, and by providing himself as an example of all those statements and exhortations, will be able, by the use of words, to make their souls free and noble.

- 71 Galen, *Protr.*, 7, ed. Kühn (1821) I.14–15 = ed. Boudon (2000) 94.20–2.

- 72 Galen, *Protr.*, 8, ed. Kühn (1821) I.15.9–16.2 = ed. Boudon (2000) 96.3–14.
- 73 Especially Galen, *Protr.*, 5, ed. Kühn (1821) I.8.9–13 = ed. Boudon (2000) 90.4–8.
- 74 Epictetus, *Disc.* III, 24, 67–69.
- 75 Galen, *Protr.*, 7, ed. Kühn (1821) I.14.1–5 = ed. Boudon (2000) 95.1–5. Cf. Galen's *Protr.*, 6, ed. Kühn (1821) I.11.9–11 = ed. Boudon (2010) 92.19–21.
- 76 Galen, *Protr.*, 8, ed. Kühn (1821) I.15.9–17.12 = ed. Boudon (2000) 96.3–97.22.
- 77 Galen, *Protr.*, 8, ed. Kühn (1821) I.17.14–17 = ed. Boudon (2000) 98.2–5.
- 78 Cf. Galen, *Mor.*, ed. Kraus (1939) 43, where illness and ugliness of the body correspond to illness and ugliness of the soul.
- 79 Cf. Diogenes Laertius 7.19 and Stobaeus 2.31.98. The recipients of the advice are in both cases young men. For how Galen is influenced by “Socratism” in the *Exhortation*, see Rosen (2008: 157–9).
- 80 Galen, *Protr.*, 8, ed. Kühn (1821) I.18.15–19.13 = ed. Boudon (2000) 99.1–16 with multiple occurrences of ἔπτυσεν, προσέπτυσε, ἀποπτύειν.
- 81 Galen, *Protr.*, 8, ed. Kühn (1821) I.19.13–15 = ed. Boudon (2000) 99.16–18.
- 82 Galen, *Protr.*, 9, ed. Kühn (1821) I.20.4–5 = ed. Boudon (2000) 100.1–2: Ἄγετε οὖν, ὦ παῖδες, ὅποσοι τῶν ἐμῶν ἀκηκοότες λόγων ἐπὶ τέχνης μάθησιν ὥρμησθε.
- 83 Galen, *Protr.*, 9, ed. Kühn (1821) I.20.5–9 = ed. Boudon (2000) 100.2–6.
- 84 *Enkyklios paideia* refers to a programme of intermediate/secondary education (following the primary education that included reading and writing), which provided preparatory studies for the various branches of higher culture. After the second half of the first century BC, this programme became more systematised and included the seven liberal arts, normally grammar, rhetoric, and dialectic (later known as *trivium*) and arithmetic, geometry, astronomy, and harmonics (*quadrivium*), although with some degree of flexibility depending on the special interests of each author. Higher/professional learning traditionally included philosophy, rhetoric, medicine, architecture, and other fields. See Clarke (1971: 1–2, 109–18) and Morgan (1998: 33–9).
- 85 Galen, *Protr.*, 9, ed. Kühn (1821) I.20.9–10 = ed. Boudon (2000) 100.6–8: “I am sure that you are quite well aware that none of these is an art”.
- 86 Galen, *Protr.*, 9, ed. Kühn (1821) I.20.13–14 = ed. Boudon (2000) 100.11–12: “The only thing that worries me is athletics”. Galen, *Protr.*, 9, ed. Kühn (1821) I.21.1–4 = ed. Boudon (2000) 100.16–101.2: “There is a danger that it may deceive some young men into supposing it an art. We had best investigate it then; deception is always easy in anything of which one has made no previous investigation”.
- 87 Galen, *Protr.*, 9, ed. Kühn (1821) I.21.4–10 = ed. Boudon (2000) 101.2–9.
- 88 Plutarch's educational essays and Galen's *Exhortation* have many ideas in common: the contrast between usefulness and pleasure (*De aud. poet.* 14D–F); the mixture of philosophical material with mythical narrations so as to make them more attractive to young people (*De aud. poet.* 15F); amendment (*epanorthosis*) of poetical lines (*De aud. poet.* 20E–21D); praise and blame (*De aud. poet.* 27E–F); the role of eugenics (*De aud. poet.* 28D); differences between various groups of people and nations (*De aud. poet.* 28F–30E); the notion that the gods do not honour wealthy and powerful men but rather the just ones (*De aud. poet.* 30F); the imagery of horse and rider (*De aud. poet.* 31D) and the helmsman (*De aud. poet.* 33F); the condemnation of nobility, riches, beauty, and fame (*De aud. poet.* 32F, 33C–D, 34A, 34D–36A); what depends on luck (*De aud. poet.* 35C); and antithesis between humans and wild animals (*De aud. poet.* 38D).
- 89 According to Galen, the emperor referred to him as “the first among doctors and unique among philosophers”, *Praen.*, 11, ed. Kühn (1827) XIV.660 = ed. and tr. Nutton (1979) 128.27–8; elsewhere he claims that his teacher, the Peripatetic Eudemus, knew him for his philosophical achievements and considered medicine to be a sideline for him, *Praen.*, 11, ed. Kühn (1827) XIV.608.13–15 = ed. Nutton (1979) 76.27–9.
- 90 Hartlich (1889: 302); cf. Calderini and Ginevra (1986: 75–80).

- 91 König (2005: 254–300) analyses Galen's texts on physical training, including the *Exhortation*, to show how choosing athletics acts as a defining mirror image for medicine. On Galen's foregrounding of the self and his various levels of sophistication, see Barton (1994: 144–7). On athletics and the second sophistic, see van Nijf (2008: 203–24).
- 92 Maximus of Tyre, *Diss.*, 37.3, ed. Trapp (1994). Cf. Philostratus' *On Gymnastics* 45, where athletic trainers are accused of corrupting the morals of athletes.
- 93 Curtis (2014: 46–50). His 2014 chapter is a shorter version of pages 80–105 of his unpublished PhD thesis (2009).
- 94 Galen, *Protr.*, 9, ed. Kühn (1821) I.21.13–22.3 = ed. Boudon (2000) 101.12–17.
- 95 Galen, *Protr.*, 9, ed. Kühn (1821) I.22.6–7 = ed. Boudon (2000) 101.21–22: εἰ δ' οὐκ ἐθέλεις ἐμοὶ πείθεσθαι, τὸν γε θεὸν αἰδέσθητι τὸν Πύθιον.
- 96 Galen, *Protr.*, 10, ed. Kühn (1821) I.23.1–2 = ed. Boudon (2000) 102.12–13.
- 97 Galen, *Protr.*, 10, ed. Kühn (1821) I.23.3–5 = ed. Boudon (2000) 102.14–17.
- 98 Cf. Iamblichus, *Protr.*, 6, ed. Pistelli (1888) 40, transl. Johnson (1988):

Indeed it is a servile or brutal manner of living, but not of living well, for one to eagerly desire and follow the opinions of the multitude of mankind, but to be altogether unwilling to imitate the industry and toil of the same multitude by seeking real wealth, the things which are truly beautiful.

- 99 Galen, *Protr.*, 10, ed. Kühn (1821) I.23.11–13 = ed. Boudon (2000) 103.2–5.
- 100 Xenophontos (2010).
- 101 Galen, *Protr.*, 10, ed. Kühn (1821) I.25.2–10 = ed. Boudon (2000) 104.10–19.
- 102 Galen, *Protr.*, 10, ed. Kühn (1821) I.25.9–16 = ed. Boudon (2000) 104.18–105.4.
- 103 Galen, *Protr.*, 10, ed. Kühn (1821) I.25.11 = ed. Boudon (2000) 104.20.
- 104 Galen, *Protr.*, 11, ed. Kühn (1821) I.26.17–27.9 = ed. Boudon (2000) 106.1–11.
- 105 Galen, *Protr.*, 11, ed. Kühn (1821) I.28.14–29.2 = ed. Boudon (2000) 107.15–108.4.
- 106 For the analogy's satirical and comic connotations, see Rosen (2010: 334–7).
- 107 Galen, *Mor.*, ed. Kraus (1939) 37.
- 108 Galen, *Opt. Med.*, ed. Kühn (1821) I.59.11–15 = ed. Boudon-Millot (2007) 290.2–7.
- 109 Galen, *Protr.*, 11, ed. Kühn (1821) I.29.2–12 = ed. Boudon (2000) 108.5–14:

The old master, Hippocrates, apart from the lines already quoted, also says this: “Great and sudden changes are dangerous: filling or emptying, heating or cooling, or moving the body in any other way”. For – he adds – “all large quantities are inimical to Nature (*Aph.* 2.51)” . . . I would say, in fact, that athletics is the cultivation, not of health, but of disease . . .

On Galen as a commentator of Hippocrates, see Manetti and Roselli (1994); and Flemming (2008).

- 110 Galen, *Protr.*, 11, ed. Kühn (1821) I.31.2–7 = ed. Boudon (2000) 109.15–21.
- 111 Galen, *Protr.*, 11, ed. Kühn (1821) I.29.13–30.2 = ed. Boudon (2000) 108.16–23:

By this he [sc. Hippocrates] does not just mean that athletic practice destroys what is natural; he even uses the word “state”, refusing it in the name of “condition”, which is always applied by the ancients to the truly healthy. A condition is a stable state, which is not readily changed; that of athletes is a peak, and is dangerous and liable to change.

- 112 Galen, *Protr.*, 13, ed. Kühn (1821) I.32.13–16 = ed. Boudon (2000) 111.8–14.
- 113 Galen, *Protr.*, 13, ed. Kühn (1821) I.33.9–13 = ed. Boudon (2000) 112.3–7.
- 114 Galen, *Protr.*, 13, ed. Kühn (1821) I.33.16–34.2 = ed. Boudon (2000) 112.11–15.

- 115 Crusius (1884) suggested that these hexameters come from a lost work of Plutarch, number 127 in the Lamprias catalogue with title “Περὶ ζώων ἀλόγων ποιητικός”; compare Gercke (1886: 470–2), who advances certain objections to Crusius’ arguments; see also Bergk (1846: 117–8), who attributes the song to Xenophanes instead.
- 116 Galen, *Protr.*, 14, ed. Kühn (1821) I.38.9–12 = ed. Boudon (2000) 116.20–117.1.
- 117 Cf. Galen, *Mor.*, ed. Kraus (1939) 44 for the sciences reforming the soul. The contradiction between the end and function of the so-called stochastic arts, including medicine, gave rise to heated debates in Galen’s time; on how Galen and his contemporary and rival, Alexander of Aphrodisias (second century AD) explain this contradiction, see Ierodiakonou (1995).
- 118 On Galen’s attitude towards physical exercise, see the descriptive article of Barraud (1938). Also Schlange-Schöningen (2003: 127–33).
- 119 Galen, *Bon. Hab.*, ed. Kühn (1822) IV.751.13–5 = ed. Helmreich (1901) 17.15–16 = ed. Bertini Malgarini (1992) 106.21–2.
- 120 Galen, *Bon. Hab.*, ed. Kühn (1822) IV.752.4–14 = ed. Helmreich (1901) 17.22–18.10 = ed. Bertini Malgarini (1992) 106–108. Translations come from Singer (1997).
- 121 From [Hippocrates], *Aph.*, 1.3.18, ed. Littré (1844) IV.458.13 = ed. Jones (1931) IV.99 at Galen, *Protr.*, 11, ed. Kühn (1821) I.27.13–14 = ed. Boudon (2000) 106.15–16 and *Protr.* 11, ed. Kühn (1821) I.30.1–2 = ed. Boudon (2000) 108.22–3. From [Hippocrates], *De Alim.*, 34, ed. Littré (1861) IX.110.11–13 = ed. Heiberg (1927) 82.21–2 = ed. Joly (1972) 145.2–3 at Galen, *Protr.*, 10, ed. Kühn (1821) I.25.7–8 = ed. Boudon (2000) 104.15–16 and *Protr.*, 11, ed. Kühn (1821) I.29.12–13 = ed. Boudon (2000) 108.15–16.
- 122 Galen, *Protr.*, 13, ed. Kühn (1821) I.33.9–13 = ed. Boudon (2000) 112.3–7.
- 123 Galen, *Protr.*, 13, ed. Kühn (1821) I.34.5 = ed. Boudon (2000) 112.17–18: ὅ τῆς ὑπερβαλλούσης ἀνοίας.
- 124 Galen, *Protr.*, 13, ed. Kühn (1821) I.34.3–35.11 = ed. Boudon (2000) 112.15–114.4.
- 125 Galen, *Protr.*, 13, ed. Kühn (1821) I.34.9–10 = ed. Boudon (2000) 113.4.
- 126 The *chreia* of Milo seems to be a famous one, occurring, *inter alios*, also in Cicero’s *On Old Age* 10.33, Quintilian’s *Institutes of Oratory* 1.10, Aelian’s *Various History* 12.22 and 14.47b, and Lucian’s *Charon* 8.
- 127 Mendner (1959), Nickel (1976); for a description of the sport, see Wenkebach (1938: 275–9). See also Robinson (1955: 182–90) for other references to exercises with a ball such as Pollux or Athenaeus. On the popularity of ball games in the Imperial period, see Harris (1972: 75–111).
- 128 Galen, *Parv. Pil.*, ed. Kühn (1823) V.899.10–900.1 = ed. Marquardt (1884) 93.10–12.
- 129 Galen, *Parv. Pil.*, ed. Kühn (1823) V.900.10–12 = ed. Marquardt (1884) 94.5–8.
- 130 Galen, *Parv. Pil.*, ed. Kühn (1823) V.906.14–907.1 = ed. Marquardt (1884) 97.7–11: Μάλιστα οὖν ἐπαινῶ γυμνάσιον, ὃ καὶ σώματος ὑγίειαν ἐκπορίζει, καὶ μερῶν εὐαρμοστίαν, καὶ ψυχῆς ἀρετὴν παρὰ τούτοις . . . καὶ γὰρ εἰς πάντα ψυχὴν δυνατόν ὠφελεῖν.
- 131 Galen, *Parv. Pil.*, ed. Kühn (1823) V.905.10–13 = ed. Marquardt (1884) 98.8–12.
- 132 Galen, *Parv. Pil.*, ed. Kühn (1823) V.905.14–17 = ed. Marquardt (1884) 98.13–16.
- 133 Galen, *Protr.*, 11, ed. Kühn (1821) I.26.17–27.9 = ed. Boudon (2000) 106.1–11; Galen, *Protr.*, 11, ed. Kühn (1821) I.28.14–29.2 = ed. Boudon (2000) 107.15–108.4.
- 134 Galen, *San. Tu.*, 1.12, ed. Kühn (1823) VI.60.8–18 = ed. Koch (1923) 28.22–31.
- 135 Galen started his philosophical studies at the age of 14, Nutton (2004: 217). [Soranus], *Introduction*, ed. Rose (1870) II.244–5, recommends beginning medical education at the age of 15; see Drabkin (1944: 337), Carrier (2016: 34–6, 60–2). On medical education in antiquity, see Bannert (2015), Carrier (2016: 105–19); cf. Kudlien (1970a).

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5 An interpretation of the preface to *Medical Puzzles and Natural Problems* 1 by Pseudo-Alexander of Aphrodisias in light of medical education*

Michiel Meeusen

Pseudo-Alexander's *Medical Puzzles and Natural Problems* and the Aristotelian *Natural Problems*

Among the writings of Alexander of Aphrodisias (fl. 200 AD), the famous commentator on Aristotle, there is a collection of *Medical Puzzles and Natural Problems* (ιατρικὰ ἀπορήματα καὶ φυσικὰ προβλήματα), which is generally considered spurious today.¹ Finding its model in the *Natural Problems* ascribed to Aristotle (probably only partially authentic), the work is one of several witnesses to the revival of this branch of scientific inquiry, well known for its typical question and answer approach, in the Imperial era. Scholars agree that starting from Andronicus' re-edition of Aristotle's oeuvre in the first century BC, this genre gained in popularity in the first and second centuries AD and onwards.² Other collections that have come down to us are the so-called *Supplementary Problems*,³ variously attributed to pseudo-Aristotle and pseudo-Alexander; the *Medical Difficulties and Natural Problems*, ascribed to Cassius the Iatrosophist;⁴ and the natural problems by Plutarch of Chaeronea (collected in his *Table Talk* and *Causes of Natural Phenomena*).⁵

Pseudo-Alexander's *Medical Puzzles* consists of two books, the first of which contains 152 problem chapters, and the second, 76. Each book opens with a preface. The preface to the first book propounds the types and general method of "problematic" research, indicating which topics of investigation are of interest to the author and how they can be approached; the second preface is an eulogy of the medical art, praising it as a divine gift and "a standard of knowledge" (ἐπιστήμης . . . κανόνα)⁶ bearing the "tokens of philosophy" (φιλοσοφίας . . . γνωρίσματα).⁷

This contribution will be mainly concerned with the preface to the first book of questions and more precisely with its propaedeutic role in light of ancient school debates on medical topics. Scholars have indeed pointed out that the importance of this first preface for the history and reception of the Aristotelian *Natural Problems* cannot be denied, but even so, the text has not yet been comprehensively studied.⁸ As this chapter will argue, the preface is of great importance for interpreting the scientific method and purpose of such problems and also for analysing the discursive relation between author and reader, a relation that is firmly rooted in a

medical school setting.⁹ Since we have no certainties about the work's historical context, this school setting will be conceived of as a purely discursive category to be valued in the text itself, that is, in the dialogue the author evokes between him, as a teacher, and his reader, as a student (τὸν διδασκόμενον).¹⁰

Pseudo-Alexander's collection was first edited by Julius Ludwig Ideler in 1841 in the first volume of his *Physici et Medici Graeci Minores*,¹¹ but the text is in dire need of a proper critical edition meeting the standards of modern scholarship.¹² This is also necessitated by the fact that scholars have recently refocused their attention on the Aristotelian *Problems* and its history, a tradition in which the collection at hand takes an important, but relatively neglected, place.¹³ The link between Aristotelian natural philosophy and ancient medical theory is already present in the Aristotelian *Problems* itself, especially in the first book (entitled ὅσα ἰατρικά). It has been shown that the author here repeatedly draws from Hippocratic writings (esp. *On Airs, Waters, Places*), demonstrating a specific preoccupation with incorporating their theoretical and terminological framework into the Aristotelian paradigm of causal research (or vice versa).¹⁴ Rather than analysing the parallels between the Aristotelian *Problems* and those attributed to Alexander,¹⁵ this study intends to shed light on the usability of such problems in an educational context.

Pseudo-Alexander's school context

It is generally accepted that ancient *quaestiones* literature, as a genre, is connected with erotematic (= questioning) education in school contexts.¹⁶ As we will see, a similar educational background is also present in pseudo-Alexander's *Medical Puzzles*. In antiquity, the problem format provided a useful tool for questioning all kinds of topics.¹⁷ Question and answer literature (more broadly conceived) was common in medical treatises from the Greco-Roman period: it can be found, for instance, in Soranus' *Gynaecology*, in medical encyclopaedias and in medical papyri.¹⁸ The main aspiration of these writings was to transform and transfer medical knowledge in a dialogical fashion from author to reader.¹⁹ With its clearly shaped, piecemeal setup, it allows the author to focus his and the reader's full attention on very specific topics and to look for arguments, explanations or interpretations that deserve particular consideration. The author aims to communicate these insights – be they old or new – to the reader for him to memorise, review or criticise. The investigating organisation of these writings is often concerned with defining specific medical concepts, rather than with actually explaining problematic phenomena in a dialectical way. Of course, both types of questions originated from educational contexts, but the former primarily pertained to teaching, whereas the latter pertained to research. Pseudo-Alexander's *Medical Puzzles* belongs to the second category, as does its model, namely, the Aristotelian *Problems*.

Interestingly, in the Aristotelian *Problems* the explanations to the problems are phrased interrogatively and are introduced with ἢ ὅτι; ("Is it because?"). This is generally interpreted not so much as a sign of argumentative modesty on the side of the author but as an invitation for further discussion.²⁰ Aristotle probably

raised such problems during his lectures in the Lyceum, and the genre became well entrenched in the school's philosophical curriculum after his death. The fact that often more than one explanation is given to a problem suggests that such topics were, indeed, subject to lively discussion that allowed for reconsideration of previously suggested explanations (in addition, problems are sometimes repeated but solved in a different way). As such, we are dealing with a very dynamic type of discourse that is open to continuous textual evolution and addition.

In pseudo-Alexander's *Medical Puzzles*, however, the text seems to be more static. The author there mostly gives only one extensive explanation for each problem, introducing it in a more straightforward, assertoric fashion with ὅτι ("because", sometimes preceded by φημί, "I say") instead of the interrogative ἢ ὅτι.²¹ One may presume that the educational goal is, therefore, of a more dogmatic, perhaps monologic, kind, meaning that the reader is invited to accept the explanations and their underlying principles as they stand. In any case, the virtual dialogue that pseudo-Alexander creates in his *Medical Puzzles* does not represent the condensation of real-life discussions. The text is very useful in an educational context, but it need not directly originate from school discussions in order to attain its didactic goal.²²

In the preface to the second book of the *Medical Puzzles*, pseudo-Alexander is implying (with the use of the authorial "we") that he did the research for the problems himself. At the same time he emphasises that the reader can still benefit from this research. At the end of the preface we read:

And so many problems have we treated (διειλήφμεν) for the sake of thinking (διάνοιαν) and not for the usefulness (χρεία) of inquiries, having gathered only a few sections from these. This should suffice for those who pursue this endeavour and especially for those who intend to train their theoretical insight (τοῖς τὸν λόγον ἀσκοῦσι). They provide no little benefit also for the *discovery* of things (τὴν τῶν πραγμάτων εὔρεσιν).²³

The educational interest of the kind of problems gathered in the collection is highlighted here by the fact that they are useful especially for the sake of intellectual training (viz. as an exercise in theoretical research). The idea, moreover, that these problems are also helpful for the "discovery of things" (τὴν τῶν πραγμάτων εὔρεσιν) remains somewhat enigmatic and is not further explained at the very end of this second preface, but I will try to clarify its meaning in connection with my analysis of the ending of the first preface, to which I now turn.

Analysis of the first preface²⁴

Traditionally, the main function of prefaces is to instruct the reader about the general design and purpose of a text and, at the same time, to create a certain aspect of suspense, by "arousing the interest of the reader".²⁵ The preface in hand is no exception. In fact, pseudo-Alexander's text has a clear protreptic function as it intends to instruct the reader about the proper method and procedures of

“problematic” research. In what follows I will try to determine how precisely the author aims to regulate the reader’s reception of the work by setting out the classificatory and methodological standards for his research programme. I will argue that the preface promotes an “active reading” of the problems by activating the reader’s attentiveness to the strategies that are employed both in raising and in solving such problems. This will be important for determining the educational value of the collection as a whole.

The concept of an “active reading” has recently been coined by Plutarchists working on the Chaeronean’s natural problems, as collected in *Table Talk* and *Causes of Natural Phenomena*, especially in relation to their largely unsystematic arrangement and sequence.²⁶ By reading the separate problem chapters actively, so it is argued, the reader acquires a general aetiological framework that could be reused and remoulded in new discussions concerning similar problems. In my view, however, the application of this theory to Plutarch’s natural problems is far more hypothetical than in pseudo-Alexander’s case, where – so I believe – there is concrete textual evidence to back it up.

The argument in the preface is twofold and can be paraphrased as follows. First (and this constitutes the bulk of the text), pseudo-Alexander provides a classification of several kinds of problems based on criteria of difficulty and solubility, emphasising the intermediate nature of the problems he will be dealing with. He first makes a basic distinction between problems that are soluble and those that are not. The type of problems that are of interest for further inquiry have a middle position and are ambiguous to comprehend: these are the kinds of problems collected in the body of the text. In a final paragraph, pseudo-Alexander indicates how such problems can be properly solved and provides a set of terms and rules (κανόσι) that are of general use. By following the proposed method the student will be able to solve any problem, so it is promised. Pseudo-Alexander is aware that an exposition of the general method does not suffice and that the student needs examples of concrete applications, which he gives in the problem chapters that follow. A closer reading of the text will give a better insight into pseudo-Alexander’s argument and its intention. To this end, I will follow the preface’s basic, bipartite structure, first dealing with the classification of problems and then with the proposed method of solution.

Raising problems

In defining which problems are of concern to pseudo-Alexander’s project, the first part of the preface uses both a negative and a positive approach, first describing which problems are not of concern here, and then which are. The author begins his classification of problems with the soluble ones: “Of problems some are immediately credible and comprehensible (πιστὰ καὶ γνώριμα), and do not have the savour of any ambiguity or inquiry (πάσης ἀμφιβολίας καὶ ζητήσεως ἄγευστα).”²⁷ He illustrates this with a set of problems, of the kind: why do birds have feathers? – this is for the sake of heating and beauty; or why did some animals receive horns, others stings, and still others sharp claws or the like? – this is for the sake of defence. These problems

reveal nature's providential ordering (a point the author will elaborate later on),²⁸ but they do not really trigger any inquiry, since they do not really pose any difficulty, according to pseudo-Alexander. This is why they are of no interest to the author.

In what follows, pseudo-Alexander opposes these soluble problems to the insoluble ones. Regarding the soluble problems, first of all, he notes: "All those who propose such well-known and clear problems (τοιαῦτα γνωστὰ καὶ σαφῆ) are completely lacking in intelligence (νοῦ), and anyone who doubts whether heat is innate to fire, lacks the sense of touch (ἅπτικῆς αἰσθήσεως)".²⁹ Two further remarks can be made here:

- 1 The absolute lack of intelligence (νοῦς) in solving evident problems reveals the supposed obviousness of the topics at hand and shows that they are immediately clear when examined (that is, as clear as when one would examine whether heat is innate to fire by touching it). This means that there is nothing essentially "problematic" about such topics – unless, it could be added, one is of a radically sceptical disposition. Someone like Galen, however, would scorn such persons as stubborn "lovers of puzzles" or "followers of puzzles".³⁰ Pseudo-Alexander is thinking along the same lines.
- 2 The reference to empirical testing (viz. in examining whether heat is innate to fire by touching it) may cause some confusion between two specific modes of inquiry. By mentioning the requirement of haptic sensation (ἅπτικὴ αἴσθησις), pseudo-Alexander turns his focus from the search for an explanation for a natural phenomenon towards the aspect of verification itself. Indeed, in correspondence with Aristotle's method of scientific inquiry, the affirmation of the reality of a given fact or phenomenon is a preliminary stage of inquiry to be settled before investigating its cause.³¹ One may presume that, with the example of heat being innate to fire, pseudo-Alexander especially aims to highlight the obviousness of the question of empirical verification rather than what causes the phenomenon (as in the other instances). As such, it nicely illustrates the main idea, viz. that there are evident problems – whatever their actual type of inquiry may be. Notably, the shift from explaining to verifying the phenomenon is not further substantiated. A plausible explanation can be found in the fact that we are dealing with an implicit – but clear – allusion to *Topics* 105a3–9,³² a passage where Aristotle is also discussing which topics of investigation are unsuitable for debate.³³

One should not examine every problem and every thesis but the one about which people might be puzzled (ἀπορήσειεν) – people who require reason (λόγου) and do not need punishment (κολάσεως) or sensation (αἰσθήσεως). For those who are puzzled as to whether or not the gods should be honoured and parents loved, need punishment (κολάσεως), while those who doubt whether snow is white or not, need sensation (αἰσθήσεως). We should not discuss matters of which the demonstration is too near at hand or too far-off, for the former raise no difficulty (ἀπορίαν), while the latter raise more than is appropriate to dialectical training (γυμναστικήν).

Importantly, in what follows in pseudo-Alexander's text, the same Aristotelian aspect of punishment (κόλασις) that some people deserve for raising tabooed problems recurs. Pseudo-Alexander notes:

[T]hose who feel doubt, whether nature and a providential reason (φύσις καὶ λόγος προνοητικός) predict the processes of generation and corruption, the order of things, their motion, position, formation, complexions and things closely related to them, are actually liable to the penalty of punishment (κολάσεσιν τυγχάνουσιν ἔνοχοι).³⁴

“In fact”, so the argument continues, “these problems are completely unsolvable (ἄλυτα) and comprehensible only to God (θεῷ μόνῳ γνώριμα), who also gave substance to these things (τῷ καὶ τὴν τούτων οὐσίαν ὑποστήσαντι)”.³⁵ Pseudo-Alexander's point is straightforward: he *a priori* accepts that there must be a providential order of the cosmos, the existence of which should not be questioned. In fact those who do feel doubt should be punished – presumably for reasons of godlessness.³⁶ The idea, moreover, that these problems are known only to God implies that their cause cannot be grasped by human intelligence. In a Platonic vein, pseudo-Alexander explains: “After all, a craftsman (τεχνίτης), after constructing a mechanical device (ἔργον τι μηχανικόν), knows all the causes of its activities (τῶν ἐνεργειῶν τὰς αἰτίας), whereas a layman (ιδιώτης) is completely bereft of causal insight (παντελῶς ἄμοιρος τῶν αἰτιῶν)”.³⁷ The religious implications of this passage are manifest. It is where our human understanding and intellectual capacities fail us that natural scientific and medical research tips over to theology and the realm of the divine. As such, there are specific epistemological borders to pseudo-Alexander's “problematic” research. Some problems are too difficult to solve, while others raise no difficulty at all; therefore, neither of these two categories is of interest to the type of research pseudo-Alexander has in mind.

In what follows, pseudo-Alexander gives a set of rather profane, “unknowable questions” (ἄποροι ζητήσεις), such as: why do people laugh when one tickles their arm-pits, foot soles or sides? (A pressing question, indeed, at least in view of Aristotle's concept that only human beings do so).³⁸ Why does purslane (ἀνδράχνη), which is cold by nature, treat the sensation of having the teeth set on edge caused by cold fruits? Why do not the opposite, but the same, qualities cure each other? By arousing a certain feeling of amazement, these problems have a lot in common with ancient *mirabilia* literature and paradoxography.³⁹ They appeal to a proper explanation that would take away the strangeness and paradox of the phenomena at hand, but seeing that they are completely unknowable, according to pseudo-Alexander, they are not really of interest to him. Notably, the problem about purslane is also mentioned in the pseudo-Galenic *On the Best Sect*, where it is, indeed, considered an incomprehensible phenomenon and illustrates the empiricist tenet that observation (τήρησις) can lead to treatment “without knowledge of the productive causes”.⁴⁰ The wider context there is that of the divergent methodologies employed in the dogmatic *vis-à-vis* the Empiricist school. The parallelism with this dispute corroborates the idea that pseudo-Alexander's aetiological project,

including his contemplation about its scope and procedures, was firmly rooted in the ancient medical debate about the proper method to be followed for treating patients, the search for the hidden causes of diseases being a procedure common to the dogmatic school of medicine (see also Galen, *On Sects for Beginners*).⁴¹

Indeed, in line with the pseudo-Galenic account, pseudo-Alexander in the next paragraph notes that these unknowable phenomena are “only known by *experience* (πείρα μόνον γινωσκομένων)” and that “physicians call them unsayable properties (τοῖς ἰατροῖς ἰδιότητες ἄρρητοι λέγονται)”.⁴² This means that such phenomena can be tested and observed by empirical verification/observation (cf. *τήρησις* above), but their cause remains a mystery that cannot be resolved. Those who do try to formulate explanations cannot but fail, according to pseudo-Alexander:

[F]or the peculiar character (ἴδιον) of each of these phenomena, when brought forward, is unsayable in view of an explanation of the causes (ἄρρητον ὑπάρχει πρὸς ἀπόδοσιν τῶν αἰτίων). Some people (ἔνιοι) do offer a flood of solutions for those problems, albeit in a bad way, and the solutions are unsuitable and implausible (ἄσυμφόρους δὲ καὶ ἀπιθάνους).⁴³

Instead of acknowledging the “peculiar character” (ἴδιον) of such phenomena, these people try to provide physical explanations, but this is an incorrect procedure, according to pseudo-Alexander, precisely because of their singular nature and exceptionality. We read that “there are particularities (ιδιώματα) not only in the physicians (ἰατροῖς) alone, but also in the philosophers (φιλοσόφοις) and grammarians (γραμματικοῖς), where they are called modifications in form (πάθη) and noted as exceptions by their usage (σεσημειωμένα ταῖς χρήσεσι)”.⁴⁴ By their exceptional nature, these subjects (esp. medical, but also philosophical and even grammatical) are beyond the epistemological range of the project pseudo-Alexander has in mind.

In the following paragraph, we finally find a more positive account of the types of problems that deserve consideration. Pseudo-Alexander says that “one ought to propose problems for inquiry that have a middle position (μέσῃν ἔχοντα χώραν) and are ambiguous to comprehend (ἀμφίβολά τε πρὸς γνῶσιν), and these are the things that we need to subject to solutions”.⁴⁵ These are the kind of problems assembled after the preface. They “have an intermediate nature (μέσῃν ἔχοντα φύσιν)”, so pseudo-Alexander writes, meaning that they are situated between those that “are quite clear and understood by everybody (εὐδηλα πᾶσι γινωσκόμενα)” and those that “are altogether obscure and admit no solution (πάντα κεκρυμμένα λύσιν οὐχ ὑποδεχόμενα)”.⁴⁶ One may presume that this kind of problem provokes a search for explanations that cannot reach any level of certainty but are plausible at most (this is indeed marked sporadically in the problem chapters themselves).⁴⁷

Solving problems

Although the main interest of pseudo-Alexander’s first preface is clearly tilted in favour of the classification of problems based on criteria of difficulty and

solubility, the final section is of much relevance. Pseudo-Alexander there provides further information about the proper method of solving problems. As we will see, this section contains important information about the author's project and also reflects on the educational value of the *Medical Puzzles* more generally, casting a light on its intended readership.

In what seems to be a rather unsystematic fashion, pseudo-Alexander first lists a plethora of concepts and terms that can be used for solving problems:

Each problem should be solved (λυτέον) from the body's temperament (ἀπὸ κράσεως), or formation (διαπλάσεως), or activity (ἐνεργείας), or sympathetic affection towards what is similar (συμπαθείας τοῦ ὁμοίου), or color (χρώματος), or according to deception of the senses (κατὰ ἀπάτην αἰσθήσεως), or according to homonymy (ὁμωνυμίαν), or in accordance with the better or worse state of its active powers (ἐκ τοῦ μᾶλλον καὶ ἥττον τῶν ἐνεργουσῶν δυνάμεων αὐτοῦ) – we mean in respect to the drier or moister, or the larger or smaller (καθὸ σκληρότερον ἢ μανώτερον ἢ μειζρον ἢ ἔλαττον) –, or from time, age and habit (ἀπὸ χρόνου καὶ ἡλικίας καὶ ἔθους), either essential or accidental (ἢ οὐσιώδους ἢ κατὰ συμβεβηκός), or from similar considerations (τῶν ὁμοίων), just as you will find things set out in the problems (καθὼς ἐν τοῖς προβλήμασιν εὕρήσεις τὰ λεγόμενα).⁴⁸

The underlined part is particularly important. With the verb εὕρήσεις (in the second-person singular) pseudo-Alexander addresses the reader personally, engaging him in the process and encouraging him to go through the problems and look for useful concepts and theories similar to those just listed.⁴⁹ This seems suggestive for the intended reading process of the problem chapters collected in the body of the text. Indeed, by using these rules (κανόσι), so pseudo-Alexander promises in what follows, the reader (who is again addressed personally) will be able to solve *any* problem (πᾶν ἀπορούμενον δυνήσῃ πρὸς ἀπόδειξιν τῆς αἰτίας ἀγαγεῖν).⁵⁰ This can be taken to imply, so I will try to show, that the problem chapters that follow after the preface serve as some kind of a theoretical model, providing a generic aetiological scheme for the reader to follow.

Notably, a concrete application of the method just presented can, indeed, be traced throughout the collection. In the very first problem, for instance, concerning the Homeric epithet of πολιοκρόταφος,⁵¹ said of men “with grey hair on the temples”, pseudo-Alexander emphatically notes that the principle of bodily temperament solves the problem (ἡ λύσις ἐκ κράσεως).⁵² Building his explanation around this principle of κράσις, he argues that “it is mostly there (viz. on the temples) that greyness begins, by the fact that the front parts of the head are moister and more phlegmatic (μᾶλλον ὑγρότερα καὶ φλεγματικώτερα) than the back parts”.⁵³ To give another example, with regard to the problem of why people who cut themselves unexpectedly and unwillingly suffer less pain than when this happens on purpose, pseudo-Alexander invokes the principle of sympathetic affection towards the better state of affairs (ἡ λύσις τοῦ ζητήματος ἀπὸ συμπαθείας τῆς κατὰ τὸ μᾶλλον).⁵⁴ He argues that the soul of those who unwillingly cut

themselves is distracted and receives perceptions unevenly, whereas those who do it on purpose know what they will suffer and always turn their soul towards the body part that is cut. As such, they receive the perception heavily and suffer more pain. A concrete application of the principle of deception of the senses, to give a final example, is found in the problem concerning the treatment of a dislocated jaw. The problem is that we do not apply the treatment to the dislocated joint of the jaw, but to the opposite joint, since the muscles are set opposite to each other. Pseudo-Alexander emphatically concludes that it shall be a κανών, a “rule”, for the reader not to take for granted what is manifest to the eyes in the case of dislocated muscles but to examine what is not manifest.⁵⁵ Presumably, the word κανών is meant to remind the implied reader of what is said about this concept in the preface (see κανόσι above).⁵⁶

If my hypothesis is correct, pseudo-Alexander, at the very end of the first preface, aims to personally activate the reader’s attentiveness to the ubiquitousness of the explanatory principles he just listed, thus promoting what can be called an “active reading” of the collection (see n. 26). By signalling that such principles are also employed in the problem chapters, the author makes it clear that these particular cases serve as concrete examples (κατὰ μέρος: see below), which the reader is invited to mine for useful explanatory strategies. The same idea may be present at the end of the second preface as well. Without further specification, pseudo-Alexander there writes (as we saw earlier on) that the collected problems are helpful for the “discovery of things (τὴν τῶν πραγμάτων εὔρεσιν)”. Arguably, this concept of εὔρεσις may have more to do with the invention or discovery of explanatory principles and theories by the reader than of specific treatments or the like, thus linking up closely with the verb εὐρήσεις in the first preface. Support for this reading can be found in the primary aim of pseudo-Alexander’s *Medical Puzzles* to satisfy a certain aspect of intellectual curiosity rather than to provide practical (therapeutic or surgical) instruction to the reader – as the author notes himself at the end of the second preface; what is at stake is intellectual not practical training. Moreover, in ancient rhetorical theory, the concept of εὔρεσις was traditionally opposed to that of χρῆσις, as is the case here.⁵⁷ There is thus reason to assume that pseudo-Alexander uses both these concepts (εὔρεσιν – εὐρήσεις) in a “heuristic” sense, viz. with the intention of motivating the reader to read the problems with an eye to extracting useful aetiological principles that can be reused in the discussion of comparable problems.⁵⁸ This remains hypothetical, of course,⁵⁹ but it would certainly add further weight to the educational value of the collection as a whole, which is presented, then, as providing a global aetiological standard for the reader to absorb and to reactivate whenever necessary. When read actively, the problems provide a loosely defined conceptual-theoretical framework that enables the reader to solve similar problems by acquiring an aetiological sensitivity for this type of inquiry.

Conclusion

In sum, the discursive relation between author and reader in pseudo-Alexander’s first preface has an essentially propaedeutic and educational motivation. At the

very end of the text, pseudo-Alexander identifies the reader he addresses with a student (τὸν διδασκόμενον), who “should not be satisfied only with the general method (τῇ καθόλου μεθόδῳ) but should also be guided by means of particular cases (τοῖς κατὰ μέρος χειραγωγεῖν)”.⁶⁰ As we saw, a concrete application of the presented method can, indeed, be traced throughout the problems. In fact, a myriad of such explanatory principles (either explicitly mentioned in pseudo-Alexander’s concluding methodological section or not) can be found throughout the collection, but it would take us too far to analyse each and every one of them.⁶¹ More importantly, considering the thematic diversity of the collection, these explanatory principles do indeed enable the reader to solve *any* problem, as pseudo-Alexander promises (presumably excluding the ἄποροι ζητήσεις), and, therefore, they are, in a way, “canonical” to the genre of problems, providing the “rules” for the reader to follow (by which I allude to pseudo-Alexander’s own wording: κανόσι). As such, the text regulates its own reading by setting out the conceptual standards for this kind of research, not only for raising, but also for solving problems. It is up to the reader to follow the author’s guidance (χειραγωγεῖν), which is, indeed, present in a dogmatic way throughout the collection⁶² but determines the reader’s reception of the work in a rather idiosyncratic fashion.⁶³

Notes

- * This contribution greatly benefits from the useful remarks and suggestions of two audiences: a first version was read at the London conference, a revised one at a colloquium in Berlin (on invitation of Philip van der Eijk). I am most grateful for the useful suggestions I received at both occasions. Any remaining inaccuracies are my own, as are all translations.
- 1 As to the collection’s historical authorship, an intriguing theory was put forward by Sharples (2005). Sharples argues that our pseudo-Alexander (and also the one from part of the *Supplementary Problems* and *On Fevers*) may actually be identified with the Commentator’s father, who, so we know from recent epigraphical evidence, bore the same name and also was a philosopher.
- 2 For further detail about this tradition, see Flashar (1962: 359–70).
- 3 Ed. Kapetanaki and Sharples (2006). Previously known as the *Problemata inedita*. Dated around the second–third centuries AD.
- 4 Ed. Garzya and Massullo (2004). Dated “not earlier than the 3rd cent. AD” in *OCD*: 299.
- 5 See Klotz and Oikonomopoulou (2011); Meeusen (2017). Ed. Fuhrmann (1972); (1978); Frazier and Sirinelli (1996); and Meeusen and Pontani (forthcoming).
- 6 Pseudo-Alexander, *Medical Puzzles*, 2.pr, ed. Ideler (1841) 52.14–15.
- 7 Pseudo-Alexander, *Medical Puzzles*, 2.pr, ed. Ideler (1841) 52.9.
- 8 See Flashar (1962: 365); Garzya and Masullo (2004: 13). The text has also been treated in light of the reception of the Aristotelian *Problems* in Renaissance Europe by Blair (1999: 174 and 176–7).
- 9 A matter that cannot be addressed in full detail here is that of *Quellenforschung*. Katerina Oikonomopoulou (University of Patras) and I are currently collaborating on a paper about the medical and philosophical sources and traditions that pseudo-Alexander relies on in both prefaces. (The paper also includes an English translation of these texts.)
- 10 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.35. For a good survey of ancient medical education, see Drabkin (1944).

- 11 Ideler (1841: 3–80). For an attempt to outline the complex bibliographical details on the problems attributed to Alexander, see Sharples (1987: 1198–9).
- 12 A new edition is currently being prepared by Carl-Gustaf Lindqvist (University of Gothenburg), which is “eagerly awaited” (to use the words of Kapetanaki and Sharples 2006: 1, n. 1).
- 13 This resulted, most prominently, in the publication of a new English translation (Mayhew 2011) and two edited collections of essays dealing with the work’s intellectual background and sources: Centrone (2011) and Mayhew (2015a). For the work’s reception in the Middle Ages, De Leemans and Goyens (2006) is the main reference.
- 14 See Ulacco (2011); and Thomas (2015). For a list of possible sources of the chapters in *Pr.* 1, see Mayhew (2015b: 180, n. 20). Traces of the genre of problems can already be found in the Hippocratic writings: see Diller (1934) and Flashar (1962: 298–9).
- 15 Flashar (1962: 364–5) counts 31 parallel problems between pseudo-Aristotle’s and pseudo-Alexander’s collections.
- 16 Generally useful regarding the didacticism of question and answer literature (applied specifically to the Aristotelian *Problems*) is Jacob (2004).
- 17 Not only in the fields of natural science and medicine but also, among others, of philosophy (e.g., Plutarch’s *Platonic Questions*); theology (e.g., pseudo-Justin’s *Questions and Responses to the Orthodox*); mechanics (e.g., pseudo-Aristotle’s *Mechanical Problems*); history (e.g., Plutarch’s *Roman Questions*); literature (e.g., Heraclitus’ *Homeric Questions*) etc.
- 18 For the question and answer format in medical literature more generally, see the broad overview by Ieraci Bio (1995). See also Dörrie and Dörries (1966); Papadoyannakis (2006); and Leith (2009).
- 19 Scholars agree that the genre of problems with its typical question and answer approach contains specific dialogical features, representing a virtual dialogue between author and reader (see Oikonomopoulou 2013).
- 20 For a study of the structure of the Aristotelian *Problems*, see Flashar (1962: 316–26).
- 21 Cf. Flashar (1962: 366); Blair (1999: 177). The phrase ἢ ὅτι; occurs only seven times in pseudo-Alexander’s *Medical Puzzles* each time to introduce an alternative explanation.
- 22 Cf. Flashar (1962: 366). In fact, also with regard to the Aristotelian *Problems*, scholars rightly nuance that one should not underestimate the text’s “literary” character. See Flashar (1962: 345–6).
- 23 Pseudo-Alexander, *Medical Puzzles*, 2.pr, ed. Ideler (1841) 53.11–16.
- 24 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 3–5.
- 25 To use the ancient terminology: see Lausberg (1960: §269–71).
- 26 See König (2007); and Meeusen (2017: 221).
- 27 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 3.1–2.
- 28 A little later on, the concept of “nature” is actually flanked by that of “providential reason” (φύσις καὶ λόγος προνοητικός: pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 4.4–5).
- 29 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 4.1–4.
- 30 Cf. Gal., *Mot. Musc.*, 2.5, ed. Kühn (1822) IV.443.11–15: τῶν τῆς ἀπορίας ἐραστῶν and ἀπορίας ζηλωταί (in the context of voluntary actions, the causes of which being clearly known – the “real” problem at issue, so Galen is trying to say, is why we are unaware of some voluntary actions, such as breathing).
- 31 In his exposition of the several types of scientific inquiry (amounting to four different types in total: viz. τὸ ὅτι, τὸ διότι, εἰ ἔστι, τί ἔστιν: *APo.*, 89b24–5, ed. Ross (1964) 158), Aristotle famously writes that “when we know the fact, we seek the reason why” (*APo.*, 89b29, ed. Ross (1964) 158: ὅταν δὲ εἰδῶμεν τὸ ὅτι, τὸ διότι ζητοῦμεν). This idea is repeated throughout Aristotle’s natural scientific writings, e.g. Aristotle, *Top.*, 105a3–9, ed. Ross (1958) 13; see Owen (1961); and Düring (1961).
- 32 Aristotle, *Top.*, ed. Ross (1958) 13.

- 33 Note, however, that Aristotle is *not* strictly concerned with *natural* problems, which raise διὰ τί; questions (that require explanations), but with *dialectical* problems, which raise πότερον; questions (that require demonstration). On the subtle distinction in phrasing of dialectical (πότερον;) problems *vis-à-vis* natural (διὰ τί;) problems, see Alex. Aphr., *In Ar. Top.*, 1.8, ed. Wallies (1891) 62.30–63.19 (= Arist., fr. 112 Rose). In short, Alexander’s argument goes that Aristotle defined a dialectical problem as a question concerning alternatives, where a positive or a negative answer is expected (*Whether* a thing is so, or not?). A natural problem, on the other hand, investigates the cause or nature of a natural phenomenon (*Why* is this so? *What* is this?), so that another type of answer is expected (viz. an explanation or a definition). Strictly speaking, then, the natural problems collected in the Aristotelian *Problems* are no dialectical problems. Interestingly, the passage from Alexander’s commentary mentions Aristotle’s lost Περὶ προβλημάτων; an entry also listed by D.L. 5.23, nr. 51, ed. Long (1964) 207.14; see Moraux (1951: 88); Louis (1991–4: I.xx, n. 50). One may wonder if pseudo-Alexander in the first preface is perhaps relying on this lost work by Aristotle. Notably, Alexander and pseudo-Alexander mention some examples of problems that are not found in the passage from the *Topics* (viz. heat being innate to fire and the magnet attracting iron). In addition, potential evidence that Aristotle’s lost Περὶ προβλημάτων circulated widely in the Imperial era is provided by the fact that the same entry is listed in the so-called Lamprias Catalogue (nr. 193), a list of writings by Plutarch of Chaeronea containing many spuria; see Irigoin (1986).
- 34 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 4.4–7.
- 35 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 4.7–9.
- 36 Pace Flashar (1962: 365), who is incorrect in interpreting κόλασις in relation to the phrasing of the problems themselves, some of which would require correction (“Korrektur in ihrer Fragestellung”). As the passage from the *Topics* shows, it is, in fact, the people who ask such problems that require “Korrektur”.
- 37 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 4.9–11.
- 38 Cf. Arist., *PA*, 673a2–10, ed. Louis (1956) 96–7 (only human beings laugh when tickled: this is due to the thinness of the skin and because only humans are able to laugh) and pseudo-Arist., *Pr.*, 35.2, ed. Louis (1991–4) III.86 (where this is explained in view of the thinness of the skin and the fact that these body parts are not used to the sense of touch).
- 39 For more background and further literature on ancient paradoxography, see Jacob (1983); and Schepens and Delcroix (1996). The genre flourished in the time of the Imperial era: see, e.g., Naas (2011); Beagon (2011); and Meeusen (2014).
- 40 [Galen], *Opt. Sect.*, 10, ed. Kühn (1821) I.127.14–16: ἄνευ τῆς καταλήψεως τῶν ποιούντων αἰτίων, ἢ τοῦ συμφέροντος τήρησις γίνεται, ὥς ἐπὶ αἰμωδίας ἢ ἀνδράχνη. An attempt to explain this phenomenon is found in pseudo-Arist., *Pr.*, 1.38, 7.9, ed. Louis (1991–4) I.22, 127 (purslane contains moisture which drives out acidity).
- 41 Galen, *Sect. Int.*, 5, ed. Kühn (1821) I.75.12–13 = ed. Helmreich (1893) 9.15–17.
- 42 Among these physicians, Galen takes first rank. For his notion of “unsayable properties”, see the excellent article by Reinhardt (2011). I intend to discuss pseudo-Alexander’s notion of “unsayable properties”, in relation to Galen’s, elsewhere.
- 43 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 4.37–5.3.
- 44 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.13–16.
- 45 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.16–18.
- 46 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.22–3.
- 47 With such concepts as εἰκότως (Pseudo-Alexander, *Medical Puzzles*, 1.90; 112; 135; 2.1; 6; 9; 19; 63, ed. Ideler (1841) 31.14; 38.8; 46.37; 53.20; 54.33–4; 56.12; 59.18; 72.4), εὐλογος (Pseudo-Alexander, *Medical Puzzles*, 1.80, ed. Ideler (1841) 25.29), πίστις (Pseudo-Alexander, *Medical Puzzles*, 1.125, ed. Ideler (1841) 43.1), ἴσως (Pseudo-Alexander, *Medical Puzzles*, 1.7; 59; 63, ed. Ideler (1841) 7.34; 20.21; 21.13), φημί/φαμέν (*passim*), etc.

- 48 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.24–32.
- 49 Throughout the collection, pseudo-Alexander more often uses the second-person singular (both in verbs and pronouns) to address the implied reader directly. E.g., in such phrases as: μυρίων ἄλλων παραδείγματα δύναμαί σοι λέγειν (Pseudo-Alexander, *Medical Puzzles*, 1.40, ed. Ideler (1841) 14.34–5); εὐρήσεις πᾶσαν διαίρεσιν (Pseudo-Alexander, *Medical Puzzles*, 1.83, ed. Ideler (1841) 27.4); λύσεις τὸ ζητούμενον (Pseudo-Alexander, *Medical Puzzles*, 1.88, ed. Ideler (1841) 30.12); τὸ αὐτὸ θεωρήσεις (Pseudo-Alexander, *Medical Puzzles*, 2.72, ed. Ideler (1841) 78.36); ἐπὶ ἐμβάλλης θερμὸν ὕδωρ (Pseudo-Alexander, *Medical Puzzles*, 1.119, ed. Ideler (1841) 41.18–19); λέξεις ἄν (Pseudo-Alexander, *Medical Puzzles*, 1.120, ed. Ideler (1841) 41.31); καὶ ἔσται σοι τοῦτο κανὼν (Pseudo-Alexander, *Medical Puzzles*, 2.11, ed. Ideler (1841) 57.20); and οἶδας γὰρ ἐκ τούτων (Pseudo-Alexander, *Medical Puzzles*, 2.16, ed. Ideler (1841) 58.29–30), etc. The author also sporadically addresses the reader more emphatically by using imperatives, thus closely engaging him in the discourse: ἴσθι (Pseudo-Alexander, *Medical Puzzles*, 1.66; 125; 2.59, ed. Ideler (1841) 21.36; 43.23; 69.27); γίνωσκε (Pseudo-Alexander, *Medical Puzzles*, 1.90; 118; 2.10; 60; 66; 74, ed. Ideler (1841) 31.19; 40.16–17; 56.37; 70.32; 74.18; 80.3); νόμιζε (Pseudo-Alexander, *Medical Puzzles*, 1.125, ed. Ideler (1841) 43.28); δός (Pseudo-Alexander, *Medical Puzzles*, 2.10, ed. Ideler (1841) 56.23); and νόμισον (Pseudo-Alexander, *Medical Puzzles*, 2.17, ed. Ideler (1841) 59.2). The verbal adjective λυτέον is also recurrent (Pseudo-Alexander, *Medical Puzzles*, 1.28; 38; 74, ed. Ideler (1841) 12.14; 14.11; 24.7) as is the first-person plural (e.g., ἐροῦμεν (Pseudo-Alexander, *Medical Puzzles*, 1.56; 59, ed. Ideler (1841) 19.33; 20.16), ἐμάθομεν (Pseudo-Alexander, *Medical Puzzles*, 1.32; 48; 59; 143, ed. Ideler (1841) 13.6; 17.17; 20.18; 48.30), ἔγνωμεν (Pseudo-Alexander, *Medical Puzzles*, 1.35, ed. Ideler (1841) 13.27), ἐμβάλωμεν (Pseudo-Alexander, *Medical Puzzles*, 1.119, ed. Ideler (1841) 40.29), etc.
- 50 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.32–3.
- 51 Homer, *Il.*, 8.518 (of old men, γέροντας).
- 52 Pseudo-Alexander, *Medical Puzzles*, 1.1, ed. Ideler (1841) 6.4–5. Repeated in the second problem (but perhaps in a corrupt gloss). Similarly, in the fourth problem, which examines why the hair of children does not turn grey, the solution is again emphatically found in the physiological composition and constitution of the body; see pseudo-Alexander, *Medical Puzzles*, 1.4, ed. Ideler (1841) 7.7: ἡ λύσις ἐκ κράσεως καὶ κατασκευῆς σωμάτων.
- 53 Pseudo-Alexander, *Medical Puzzles*, 1.1, ed. Ideler (1841) 6.2–4.
- 54 Pseudo-Alexander, *Medical Puzzles*, 1.77, ed. Ideler (1841) 24.34–5.
- 55 Pseudo-Alexander, *Medical Puzzles*, 2.11, ed. Ideler (1841) 57.20–2: καὶ ἔσται σοι τοῦτο κανὼν μυῶν παραλυθέντων, ὥς μὴ τῇ ὥσει λαμβάνειν τὸ φαινόμενον, ἀλλ' ἀνακρίνειν τὸ μὴ φαινόμενον.
- 56 See pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.32–3: τούτοις οὖν τοῖς κανόσι χρησάμενος πᾶν ἀπορούμενον δυνήσῃ πρὸς ἀπόδειξιν τῆς αἰτίας ἀγαγεῖν.
- 57 Cf., e.g., Dionysius of Halicarnassus, *De Dem. Dict.*, 51.24–5, eds. Usener and Radermacher (1899) 241. Similarly, for the mainly theoretical interest of the medical contents of the *Supplementary Problems*, being triggered by intellectual curiosity, see Kapetanaki and Sharples (2006: 1). For the aspect of wonder in relation to Plutarch's natural problems, see Meeusen (2014).
- 58 On the role of εὔρεσις/*inventio* in ancient rhetorical theory, see Lausberg (1960: §260).
- 59 For the Empirics' concept of εὔρεσις relating to the discovery of remedies by an analogical method based on practice and experience, see von Staden (1975: 191–2). What I am trying to argue is that the analogical method intended by pseudo-Alexander is not of a practical but of a theoretical kind. His main aetiological (i.e., anti-Empiric) posture seems to support this idea.
- 60 Pseudo-Alexander, *Medical Puzzles*, 1.pr, ed. Ideler (1841) 5.34–5.

- 61 E.g., κατὰ ἀπάτην τῆς ὄψεως (Pseudo-Alexander, *Medical Puzzles*, 1.37, ed. Ideler (1841) 14.2), ἡ λύσις ἀπὸ διαπλάσεως καὶ κατασκευῆς μορίων (Pseudo-Alexander, *Medical Puzzles*, 1.109, ed. Ideler (1841) 37.9–10), οὐ χρώμεθα οὖν τοῖς ἐναντίοις πρὸς λύσιν τῆς πήξεως, ἀλλὰ τοῖς ὁμοίοις (Pseudo-Alexander, *Medical Puzzles*, 1.110, ed. Ideler (1841) 37.15–16).
- 62 Cf. the introductory remarks on pseudo-Alexander’s typical use of the assertoric ὅτι (instead of the interrogative ἢ ὅτι;) at the beginning of his explanations (n. 21).
- 63 Cf. the conclusion of Blair (1999: 177): “In the pseudo-Alexandrian text, *problemata* still play a pedagogical role, but the pedagogy involved takes the form of a dispensation of knowledge rather than an active manipulation of principles”. The hypothesis of an “active reading”, presented here, is intended to modify only the second part of Blair’s claim.

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Part III

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6 The user-friendly Galen

Ḥunayn ibn Ishāq and the adaptation of Greek medicine for a new audience

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When a text is translated into another language and leaves its previous linguistic, cultural and social context, it also leaves its old audience behind. The new audience the text now faces has its own set of requirements, which may only partly overlap with those of the original audience. The task of bridging the gap between old and new audiences and appealing to the latter falls to the translator.

In the field of medieval Arabic medicine, an abundance of extant medical translations allows us to document how translators attempted to appeal to their audience and how they took the immediate practical needs of their readers into account. This chapter presents samples from this material and illustrates the insights it can provide into the relationship between the translator and his audience.

The key witness for the following observations is Ḥunayn ibn Ishāq (d. 873), a Christian physician born in the town of al-Ḥīrah in southern Iraq. As we will see, a central element of his understanding of the translator's task, which he illustrated most strikingly in his *Epistle (Risālah)*,¹ is his insistence on efficiently communicating the ideas of his Greek sources rather than reproducing their every textual detail. Three characteristic procedures he regularly resorted to may serve to illustrate how he implemented his approach: (1) by amplifying the source text in a variety of ways in the process of translation,² (2) by annotating his translations and (3) by repackaging the medical content of translated texts in a wide range of epitomes. Common to these procedures is Ḥunayn's responsiveness to the needs of his audience and his willingness to adapt Greek medical writings to ensure their maximum usefulness to his readers, many of whom were fellow physicians.

Background: The Graeco-Arabic translation movement

The medical translations into Syriac and Arabic, which form the backdrop of the following discussion, were part of the so-called Graeco-Arabic translation movement. Starting in the mid-eighth century, the following roughly two centuries saw a concerted effort funded by caliphs, court officials, scholars and interested (and rich) laypeople to translate a wide range of Greek philosophical, scientific and medical texts into Arabic, sometimes directly and sometimes through a Syriac intermediary.³

The bulk of Arabic medical translations was undertaken in ninth-century Baghdad. They are chiefly associated with Ḥunayn ibn Ishāq and the other members of his translation “workshop”.⁴ This workshop included family members such as his son Ishāq ibn Ḥunayn (d. 910) and his nephew Ḥubaysh ibn al-Ḥasan (fl. second half of the ninth century) but also other Christian translators who specialised not just in medical translations but also worked on philosophical and scientific texts.⁵

During the most active phase of Ḥunayn’s workshop around the mid-ninth century, translations were in great demand, and patrons paid well for them. Ḥunayn and other medical translators served an audience that consisted mainly of physicians, whose market value was in part determined by their familiarity with ancient Greek medicine, particularly the works of Hippocrates and Galen.⁶

Key to understanding the nature and impact of Ḥunayn’s activities is the fact that he was not only an accomplished translator with a command of ancient Greek that was unrivalled among his fellow translators. He was also a practising physician who served at the caliphal court in Baghdad. Not only did his linguistic and medical expertise ensure that his translations were of the highest quality; his double role as translator-physician also meant that he had a vested interest in seeing the medical knowledge conveyed by these texts put to good use. One fundamental requirement for his task was that Ḥunayn’s readers understood exactly what Galen and Hippocrates meant to say and how to interpret and apply their prognostic and therapeutic advice. A bad translation could potentially endanger the health of the patient and with it the reputation and livelihood of the physician who relied on it.

Ḥunayn’s translation ethos

The most explicit evidence we have for Ḥunayn’s approach and the responsibility he felt for his audience were his own observations on individual translations. He recorded them in the *Epistle*,⁷ a letter he wrote to a courtier who was one of his sponsors, ‘Alī ibn Yaḥyā ibn al-Munajjim (d. 888–9).⁸ According to a note at the end of the text, Ḥunayn wrote the first version of the *Epistle* at the age of 48 in the year 855–6 and updated it eight years later;⁹ additional information was added shortly after Ḥunayn’s death, possibly by the *Epistle*’s addressee, Ibn al-Munajjim.¹⁰

In the *Epistle* Ḥunayn surveyed the Syriac and Arabic translations of Galen he knew of or had produced himself. He set the scene at the beginning by listing a set of questions his correspondent had posed about these translations, which included the following:¹¹

... ومن الذين ترجمت أنا لهم كل واحد من تلك الكتب التي توليت ترجمتها
وفي أي حد من سني ترجمته لأن هذين أمرين قد يحتاج إلى معرفتهما إذ كانت الترجمة إنما
تكون بحسب قوة المترجم للكتاب والذي ترجم له

... who the patrons are for whom I translated each of the books I was charged with translating and the age I translated it because these two are things one needs to know since a translation depends on the competence of the book’s translator and the person it was made for.

With this observation, Hunayn established the importance of the audience for the character and quality of a translation, an idea he returned to several times in the *Epistle*. For a number of the works he surveyed, we learn the name of the person who commissioned the translation and sometimes also how Hunayn accommodated their specific requirements. On several occasions he remarked on the intelligence and experience of his sponsor, which required a corresponding degree of care on Hunayn's part. His note on Galen's *The Art of Medicine* includes the following information:¹²

وترجمته أنا بعد لداود المتطبّب وكان داود المتطبّب هذا رجلاً حسن الفهم
حريصاً على التعلّم وكنت في الوقت الذي ترجمته شاباً من أبناء ثلاثين سنة
أو نحوها وكانت قد التأمت لي عدّة صالحة من العلم في نفسي وفيما ملكته
من الكتب

I later translated it for David the Physician.¹³ This David the Physician was an intelligent and studious man. At the time I translated it, I was a young man of about 30 years but was already well equipped in terms of my own knowledge and the books I owned.

About Galen's *On the Pulse for Beginners* we learn:¹⁴

ثمّ ترجمتها أنا لسلمويه من بعد ترجمتي لكتاب الصناعة وبحسب ما كان
عليه سلمويه من الفهم الطبيعى ومن الدربة في قراءة الكتب والعناية بها
كان فضل حرصي على استقصاء تخلص جميع ما ترجمته له

I then translated it for Salmawayh¹⁵ after my translation of *The Art [of Medicine]*. Befitting Salmawayh's natural understanding and his experience and diligence in reading [medical] books, it was my greatest desire to be precise in everything I translated for him.

In the entry on Galen's *Therapeutic Method*, Hunayn noted:¹⁶

وقد ترجمت أنا هذا الكتاب كلّهُ إلى السريانيّة منذ سنيات ليوحنا بن ماسويه
وبالغت في العناية بتلخيصه وحسن العبارة

I translated the entire book a few years ago into Syriac for Yūḥannā ibn Māsawayh¹⁷ and took particular care to make it accurate and stylistically pleasing.

This example also touches on the stylistic expectations of certain sponsors, which figure in other entries as well, for example that on Galen's *On Plethora*:¹⁸

وقد ترجمته منذ قريب لبختيشوع على نحو ما من عادتي أن أستعمله في
الترجمة من الكلام وهو أبلغ الكلام عندي وأفحله وأقربه من اليونانيّة من غير
تعدّل لحقوق السريانيّة ثمّ سألني بختيشوع أن أغيّر ترجمته بكلام أسهل
وأملس وأوسع من الكلام الأوّل ففعلت

I translated it a little while ago for Bukhtīshū¹⁹ in my usual translation style, that is, the style I regard as most emphatic, serious and closest to the Greek without doing violence to the rules of Syriac. He then asked me to revise the translation in a style that is simpler, smoother and looser than the former and I did so.

Ḥunayn's *Epistle* also illustrates how the different expectations by his sponsors were bound up with their respective cultural and linguistic backgrounds. The most obvious difference between the translation assignments Ḥunayn fulfilled was the language of translation, whether into Syriac or Arabic. Many of Ḥunayn's clients were physicians whose native tongue was Syriac. The practice of medicine was at his time in fact firmly dominated by Syriac-speaking Christians; a contemporary of Ḥunayn, the celebrated littérateur al-Jāḥiẓ (d. 869), reported an anecdote about a Muslim Arab physician who bitterly complained that, in spite of the high demand for physicians, his business was slow because people believed that a Muslim could not be a good doctor.²⁰ Whether the story is fictitious or not, its effect clearly relies on a widely shared perception that medicine was a mostly Christian domain.

In contrast to the physicians who commissioned translations into Syriac, the sponsors of the Arabic translations that are mentioned in the *Epistle* are mostly laymen or scholars who did not necessarily practise medicine but were generally interested in the field. The translations they requested not only had to reproduce the meaning of the original text but do so in a stylistically pleasing manner. Arabic translations also seem to have required a higher degree of explicitness: as we will see below, depending on the style and content of the original, the translator often spelled out details and implications that were left implicit in the Greek original.

The importance accorded to the accessibility of translations also emerges from the aforementioned autobiographical sketch quoted in Ibn Abī Uṣaybi'ah's *Best Accounts of the Classes of Physicians*. Though in all likelihood not written by Ḥunayn himself but perhaps by one of his associates shortly after his death,²¹ it reflects an attitude that was probably shared by his fellow translators. The fictional Ḥunayn boasted that he translated²²

في نهاية ما يكون من حسن العبارة والفصاحة ولا نقص فيها ولا زلل ولا ميل
لأحد من الملل ولا استغلاق ولا لحن باعتبار أصحاب البلاغة من العرب الذين
يقومون بمعرفة وجوه النحو والغريب ولا يعثرون على سيئة ولا شكلة ولا
معنى لكن بأعذب ما يكون عن اللفظ وأقربه إلى الفهم يسمعه من ليس
صناعته الطب ولا يعرف شيئاً من طرق الفلاسفة

with the most appropriate expression and utmost eloquence, without any defect or error, without any preference for any [particular] religious community, without any ambiguity or grammatical mistake according to the experts in Arabic style, who have comprehensive knowledge of all aspects of grammar and uncommon expressions. They do not discover any mishap or any [wrong] vowel mark or any concept that was not [expressed] in the most pleasant and comprehensible style, [a style] understood by people who are neither physicians nor in any way familiar with philosophical methods.²³

These and other statements reflect an attitude to translation that was characterised by an intense focus on the requirements of the translations' sponsors. We are unfortunately not in a position to examine the Syriac translations Hunayn mentioned and determine the nature and extent of the stylistic adjustments he claimed to have made; with very few exceptions, Hunayn's translations into Syriac are lost. We can, however, analyse his Arabic translations and identify the techniques he applied to achieve the accessibility he and his sponsors valued so highly.

Adapting Greek medicine for a new audience

Bringing out the text's meaning: amplification

The most frequent, even ubiquitous technique Hunayn used to appeal to his audience and address its needs was to amplify the translated text, that is, to expand it in various ways to facilitate understanding the contents, supply necessary information or resolve potential ambiguities.

To illustrate the shift between the Greek text and the Arabic translation occasioned by these amplifications, it helps to look at a couple of examples. They are taken from the Greek original and Arabic translation of Galen's Commentary on Book 1 of the Hippocratic *Epidemics*.²⁴

(1) *** καὶ πιστώσομαι τὰ γένη τῶν νοσημάτων, ὧν διήλθον, Ἱπποκράτει διηρημένα εἶναι οὕτως, (2) αἰτίον γε τὸν ἀέρα <τῶν> ἐπιδημίων νοσημάτων ἀποφαινομένῳ· (3) κατὰ μὲν γὰρ τὸ Περὶ φύσεως ἀνθρώπου ταυτὶ γράφει· (4) “αἱ δὲ νοῦσοι γίνονται αἱ μὲν ἀπὸ διαιτημάτων, αἱ δὲ ἀπὸ τοῦ πνεύματος, ὃ ἐσαγόμενοι ζῶμεν. (5) τὴν δὲ διάγνωσιν ἑκατέρων ὧδε χρὴ ποιέεσθαι· . . . (6) οὐκοῦν οὐ τὰ διαιτήματα αἰτία <ἂν> εἴη γε, ὁκόταν διαιτώμενοι πάντα τρόπον οἱ ἄνθρωποι ἀλίσκωνται ὑπὸ τῆς αὐτέης νόσου. (7) ὁκόταν δὲ αἱ νοῦσοι γίνωνται παντοδαπαὶ κατὰ τὸν αὐτὸν χρόνον, δῆλον ὅτι τὰ διαιτήματα αἰτία ἐστὶν <ἕκαστα> ἑκάστοισιν”.

(1) . . . and I confirm that it was Hippocrates who distinguished the types of diseases I listed in this manner (2) and who showed that the air is the cause of epidemic diseases. (3) For in *The Nature of Man*, he writes: (4) “Some diseases arise from regimen, some from the air we live on by inhaling. (5) The diagnosis of each needs to be made as follows: . . . (6) regimen could not be the cause when people are struck by the same disease, whatever kind of regimen they follow. (7) But when all sorts of diseases occur at the same time, it is clear that the regimen is the cause of each one”.

Hunayn's Arabic translation renders this passage as follows:²⁵

... (1) وَأَصَحَّحَ أَنَّ أَبْقَرَاتٍ هُوَ الَّذِي قَسَمَ أَجْنَاسَ الْأَمْرَاضِ الْقِسْمَةَ الَّتِي وَضَعْتُهَا، (2) وَأَنَّ الْهَوَاءَ هُوَ السَّبَبُ فِي الْمَرَضِ الْوَاحِدِ الَّذِي يَحْدُثُ لَجْمَاعَةٍ كَثِيرَةٍ فِي بَلَدٍ وَاحِدٍ عَلَيَّ خِلَافَ مَا اعْتَادُوا. (3) وَهَذَا هُوَ قَوْلُ أَبْقَرَاتٍ فِي ذَلِكَ بِلَفْظِهِ: (4) «فَأَمَّا الْأَمْرَاضُ فَمِنْهَا مَا يَكُونُ مِنَ التَّدْبِيرِ وَمِنْهَا مَا يَكُونُ مِنَ الْهَوَاءِ

الذي باستدخاله نعيش. (5) وينبغي أن نتعرف كل واحد من هذين الجنسين من الأمراض بما أصف... (6) فليس إذاً التدبير هو السبب في المرض إذ كان تدبير الناس مختلفاً متصرفاً على جميع أنحاء، ثم كان المرض الذي يحدث واحداً بعينه». (7) فأما متى كانت الأمراض التي تحدث في وقت واحد مختلفة فيبين أن التدبير الذي يستعمله كل واحد من الناس الذين يمرضون هو السبب في مرضه

(1) I want to clarify²⁶ and confirm with it that it was Hippocrates who divided the types of diseases in the manner I set out (2) and that the climate is the cause when the same disease affects a large group in the same area contrary to what they are accustomed to. (3) This is what Hippocrates said about this in his own words:

(4) “Some diseases are caused by regimen and some by the air we live on by inhaling it. (5) We need to distinguish between each of these two kinds of diseases in the manner I describe: . . . (6) Hence, it is not regimen that causes the disease because people’s regimens are diverse and free in every respect while the disease that occurs is one and the same. (7) But when diseases that occur at the same time are varied, it is clear that the regimen followed by each person who falls ill is the cause of their disease”.²⁷

Some of the amplifications in this sample bring out information implied by the Greek text; “the disease” (*al-maraḍi*) in section (6) or “of their disease” (*fī maraḍihī*) in section (7), for example, clarify that the “causes” (αἰτία) mentioned in the Greek text were indeed those of the diseases under discussion rather than anything else. The same applies to “who falls ill” (*alladhīna yamraḍūna*) in section (7), an amplification of “each [disease]” (ἐκάστοισιν).

Others add for reasons of style and emphasis information that is also implicit in the Greek: supplying the phrase “in his own words” (*bi-lafẓihī*) in section (3), for instance, emphasises the fact that Galen quoted his Hippocratic source verbatim, while the expression “in the manner I describe” (*bi-mā aṣifu*) in section (5), an amplification of “as follows” (ὡςδε), may have served to smoothe the transition between the introductory clause in the quotation from *The Nature of Man* and the actual explanation.

Other examples straddle the line between paraphrase and gloss: the phrase “because people’s regimens are diverse and free in every respect” (*idh kāna tadbīru l-nāsi mukhtalifan mutaṣarrifan ‘alā kulli anḥā’ihī*) in section (6) elaborates on the Greek “whatever kind of regimen they follow” (διαιτώμενοι πάντα τρόπον), including a synonymic doublet (“diverse and free”, *mukhtalifan mutaṣarrifan*) for added emphasis. The somewhat more extended paraphrase “while the disease that occurs is one and the same” (*thumma kāna l-maraḍu lladhī yaḥduthu wāḥidan bi-‘aynihī*), also in section (6), expands the brief Greek “by the same disease” (ὕπὸ τῆς αὐτέης νόσου) into a full clause.

Finally, the translation replaces “of epidemic diseases” (τῶν ἐπιδημίων νοσημάτων) in section (2) with “the same disease . . . contrary to what they are accustomed to” (*al-maraḍi al-wāḥidi. . . ‘alā khilāfi mā ‘tādū*), an elaborate gloss

that harks back to the definition of epidemic diseases Galen gave at the beginning of the Commentary on Book 1 of the *Epidemics*,²⁸ spelled out a little further on²⁹ and then repeated several times with only slight variation. The translator's aim may have been to make very clear that the text refers on each occasion to epidemic diseases and perhaps also, by the sheer frequency of repetition, drill the definition of epidemic diseases into the minds of his readers.

While these examples are all drawn from a single translation, the phenomenon they illustrate can be observed in a large number of texts associated with the translation workshop of Hunayn ibn Ishāq. The general tendency of at least some Arabic translations of the time to expand their Greek sources is in fact well known by now and hardly bears repeating. It is on the other hand well worth examining the variety of discrete phenomena that I have collectively labelled "amplification". Let me briefly introduce some characteristic types of amplification in the translation of the *Epidemics* commentary.³⁰

We encountered two types of amplification in the sample. The first is the use of hendiadys or synonymic doublets, the translation of a single Greek term with two or more Arabic terms.³¹ Synonymic doublets are very frequent and conspicuous in medical translations; we find hundreds of examples in the *Epidemics* commentary alone and many more in other medical translations.³² These doublets can serve different purposes: they may translate a term for which one Arabic term would not be sufficient or precise enough, or they may sometimes indicate that the translator was not entirely sure about the meaning of a Greek term. Most often, though, they translate unproblematic non-technical terms, that is, they are used as stylistic devices: doublets were apparently part of the house style of Hunayn ibn Ishāq and his circle.³³

The second type of amplification in our introductory sample is the substitution of pronominal references with their referents, for example when translating the phrase "he explained" (δέδεικται δ' ὑπ' αὐτοῦ, 23.1 Gr.) as "Hippocrates explained" (*wa-qad bayyana Abuqrātu*, 116.7 Ar.) or "he taught" (αὐτὸς ἐδίδαξεν, 143.13 Gr.) as "Hippocrates taught us" (*fa-qad 'allamanā Abuqrātu*, 472.9 Ar.). The purpose seems to be to resolve potential ambiguities that could arise from the use of pronouns. This is especially important when translating between languages such as Greek, Syriac and Arabic with their different systems of grammatical gender.

Closely related to pronominal amplification is a third type of amplification, the addition of implicit subjects. In his comments, Galen often noted that Hippocrates "said this" or "explained that", but since it was clear that he was consistently referring to the views of Hippocrates, the subject did not need to be spelled out. The translator on the other hand often felt obliged to add the implicit subject "Hippocrates" in such situations, for example when he expanded "he described" (ἔγραψεν, 18.18 Gr.) to "Hippocrates described" (*wa-qad waṣafa Abuqrātu*, 102.11 Ar.) or when he rendered "he said" (φησὶν, 81.29 Gr.) as "Hippocrates said" (*qāla Abuqrātu*, 286.3 Ar.).

A fourth type of amplification is "definition": the translation sometimes defines a Greek term instead of translating it. A characteristic example has already been mentioned, the expansion of the phrase "epidemic diseases" (τῶν ἐπιδημίων νοσημάτων, 7.15 Gr.) to "the same disease that affects a large group at the same

time and in the same area contrary to what the inhabitants of that area are accustomed to” (*al-marāḍi l-wāḥidi lladhī yaḥduthu li-jamā‘atin kathīratin fī waqtin wāḥidin wa-fī baladin wāḥidin ‘alā khilāfi mā ‘tāda ahlu dhālika l-baladi*, 76.21–78.1 Ar.). Somewhat later, the translator substitutes the term “mesentery” (τὸ μεσεντέριον, 68.13–14 Gr.) with the definition “the regions between the bowels and the membrane that covers them” (*al-mawāḍi ‘i llatī bayna l-am ‘ā ‘i wa-bayna l-jushā ‘i l-mamdūdi ‘alayhā*, 242.2–3 Ar.)

This fourth type of amplification is closely related to the final type, “explanation” or “gloss”, which covers the addition by the translator of explanatory expressions or entire clauses which do not appear in the Greek text. For example, the translator expanded the phrase “the future diseases” (τὰ γενησόμενα νοσήματα, 21.15 Gr.) to “the diseases that will occur are unusual general diseases or similar ones that are, unlike this kind, benign and harmless” (*al-amrāḍa sa-taḥduthu mina l-amrāḍi l-‘āmmīyati l-gharībati wa-mithlihā mina l-amrāḍi llatī hiya min ghayri hādhā l-jinsi mimmā ‘āfiyatun salīmatun*, 110.15–16 Ar.). On another occasion, he glossed the term “hemiplegia” (παραπληγία, 81.1 Gr.) as “the paralysis that affects some body parts” (*al-istirkhā ‘i lladhī ya ‘riḍu fī ba ‘ḍi l-a ‘ḍā ‘i*, 282.10 Ar.).

This list is not comprehensive but gives an idea of the various forms amplification can take. What these forms all have in common is that the information they supply is already implicit in the Greek text, that is, amplification makes implicit meaning explicit. In Translation Studies, these types of amplification have been called “explicitation” and described as an expansion of a translated text that raises its level of explicitness.³⁴ Comparative analyses of translations between mostly modern languages, but also between medieval languages, have shown that the phenomenon of explicitation is so prominent and consistent that some scholars have termed it a “universal of translation”, a characteristic that largely applies to translation between any language pair.³⁵

Translation Studies has identified a number of factors that drive explicitation. Two of them seem to be particularly relevant for Greek-Arabic translations: the first is the process of translation itself, for example a translator’s unconscious effort to communicate the meaning of a source text as fully as possible; the second, equally important factor is the often diverging textual and stylistic requirements of the languages involved.³⁶ Given the substantial linguistic differences between Greek and Arabic and also the historical and cultural separation involved, there are good reasons to amplify the translated text: a more literal approach that would have dispensed with amplification would have resulted in a barely readable text that would have communicated only a fraction of the medical content. In this regard, the use of explicitation is not a matter of personal taste but a necessity if the aim of the translator is to communicate the contents of his source as precisely and comprehensively as possible.

Also important are the conscious choices the translator made to accommodate his audience. It has often been stated that the translations produced by Ḥunayn ibn Ishāq and his circle were reader-oriented rather than text-oriented, that they prioritised the needs of their audience over the faithful reproduction of every detail of the Greek source.³⁷ Looking at the sheer number and often trivial nature of

amplifications in the *Epidemics* commentary, it seems that Ḥunayn did not merely fill in the gaps in understanding that normally arise in translation; he clearly went out of his way to make sure that every last ambiguity was resolved and every last open question addressed.

Adding supplemental information: translation notes

The second important procedure Ḥunayn used to transmit additional explanations and reflections about the process of translation were annotations that were passed on alongside a fair number of the Arabic translations that emerged from his workshop.³⁸ At a time when the respect for the translated source dictated that the presence of the translator be reduced to a minimum, often not more than a mention in the colophon and sometimes not even that, this was unusual.³⁹

The form these notes take is also unusual: since he was bound by the structure and contents of his source, Ḥunayn had, as it were, to step outside the text whenever he needed to resolve a problem that required more than a short gloss or a more elaborate turn of phrase. The notes are therefore inserted into the text body of the translation but introduced by “Ḥunayn said” (*qāla Ḥunayn*) to distinguish them clearly from the surrounding text.⁴⁰

The extant notes vary in length from a line or two to several manuscript pages. Ḥunayn, who spoke in the first person, presented a wide range of observations, some to do with difficult terms, additional explanations of concepts discussed in the translation, or the process of translation itself, more specifically the problems he encountered and how he dealt with them. The latter kind of notes are especially valuable because they offer a unique window into the practice of translation between Greek, Syriac and Arabic in the ninth century.

Straightforward explanatory notes make up the majority of Ḥunayn's comments. They either seek to clarify terms, sometimes by referring to the underlying Greek word, or they expand the text in order to spell out points that are only briefly alluded to or remain ambiguous in the original text.

To cite just one example, in his translation of Galen's *On the Capacities of Simple Drugs* Ḥunayn inserted a gloss on a technical term in which he mentioned a problem in the Greek textual tradition caused by a simple scribal error:⁴¹

قال حنين: وجدنا في كثير من النسخ اليونانية بزر الفنجكشت وورقه يقطع
الباءة كما سييين ذلك جالينوس في المقالة التي تتلو هذه وإذ كان الأمر
على هذا فالناسخ إذا غلط في أول نسخة فكتب مكان لينوا وهو الكتان ليغوا
وهو الفنجكشت باليونانية

Ḥunayn said: In many Greek manuscripts we have found “chasteberry seed”, but as Galen is going to explain in the following book [sc. of Galen's *On the Capacities of Simple Drugs*], its leaves prevent sexual intercourse. This being the case, the copyist therefore made a mistake at the beginning of a copy and wrote instead of *līmū* (λίμνον), which means flax, *līghū* (λύγος), which in Greek means chasteberry.⁴²

A second category of Hunayn's comments deals with the process of translation. Most frequent are notes that indicate gaps Hunayn found in his source manuscripts and his attempts to fill them. Conversely, he occasionally signalled material he omitted or thought about omitting and laid out his reasons for doing so.

For example, in his translation of Galen's Commentary on Book 2 of the Hippocratic *Epidemics* Hunayn explained that he was unable to reproduce the ambiguity of a Greek phrase in Arabic and had meant to omit it but reconsidered because he thought that it could still be useful for some readers:⁴³

قال حنين: إنّ هذا الكلام في اللسان اليونانيّ محتمل لأن يقطع ويقرأ على أنحاء شتى من التقطيع والقراءة فيدلّ بحسب كلّ واحد من أنواع تقطيعه وقراءته على واحد واحد من هذه المعاني التي أشار إليها جالينوس. وليس ذلك في العربية بممكن ولذلك قد كنت هممت بإسقاط هذا الكلام إذ كان لا يطابق اللغة العربيّة ويفهم فيها على حقوقها إلا أنّي لما وجدت معاني قد مرّت في هذا الكلام نافعة لمن تدبّرها رأيت ترجمته على حال إذ كانت ليس تضرّ ترجمته وهي إلى المنفعة أقرب. ومن قرأه فقدّر أن يصل إلى الانتفاع به فهو منه على ربح ومن لم يقدر على ذلك فهو قادر أن يتاركه فلا يضرّه مكانه شيئاً إن شاء الله

Hunayn said: In Greek this passage can be split up and read [i.e. parsed] in various ways. It signifies each separate meaning Galen pointed out depending on the particular ways it is split up and read. This is not possible in Arabic. Since this passage does not suit the Arabic language and could not be understood completely in it, I had considered dropping it but decided to translate it anyway when I found ideas in this passage that benefit the people who study them since translating it does not hurt but may rather be beneficial. Those who read it can draw [some] benefit and therefore profit from it; those who cannot can ignore it without suffering any harm, God willing.

Among the translation notes are also a few longer excurses that were inspired by more substantial philological and translation problems. Two interesting examples can be found in the translation of Galen's Commentary on Book 2 of the Hippocratic *Epidemics*. In one such excursus, Hunayn explained why the fifth part of this commentary is missing,⁴⁴ in another he discussed an apparent contradiction between the text he was translating and another Galenic work: after laying out the contradiction in detail, Hunayn suggested that his poor manuscripts may be to blame. Interestingly, he also felt obliged to point out that it was certainly not his intention to contradict Galen.⁴⁵

While unwaveringly respectful of Galen, Hunayn also sometimes used his notes to criticise texts by other authors who did not come up to the standards set by Galen. This is for example the case for the pseudo-Aristotelian *Physiognomics*. Out of fifteen extant notes that accompany Hunayn's translation of this text, six criticise or even reject the reasoning of the author. Two of these notes adduce evidence from Galenic writings⁴⁶ and two others refer to Hunayn's personal experience to contradict some physiognomic claims made in the text.⁴⁷ Hunayn's critical attitude may have been the result of his doubts about the authorship of this work.⁴⁸

From translation to medical teaching: didactic writings

The final technique Hunayn resorted to in order to adapt Greek medical texts for their new audience consisted in filtering out the medical knowledge contained in the translations and repurposing it in a wide variety of didactic writings. Since his ultimate goal was to fulfil the immediate practical needs of his most important audience, fellow physicians and students of medicine, it should not come as a surprise that the production of a Syriac and Arabic translation was for some Greek medical texts just a first step in an entire chain of exploitation.

Galen's commentaries on Hippocratic writings for example were, from a practical point of view, much less attractive for Hunayn's audience than his therapeutic and prognostic writings. They tended to be long and unwieldy, and they often included a large amount of material that was irrelevant for medical practice. To make their medical content available in a more easily digestible form, Hunayn wrote epitomes based on some of these commentaries in which he stripped out any extraneous material and repackaged the relevant information in different formats that answered the needs of his audience.

Hunayn's writings on Galen's *Epidemics* commentaries illustrate this process very well. In the list of Hunayn's writings reported by Ibn Abī Uṣaybi'ah,⁴⁹ we find four titles of compilations that are clearly based on his Arabic translation of the *Epidemics* commentaries: first, the *Summaries of the Contents of the First, Second and Third Books of Hippocrates' Epidemics in the Form of Questions and Answers* (*Jawāmi' ma'ānī l-maqālah al-ūlā wa-l-thānīyah wa-l-thālithah min kitāb Ibīdhīmīyā li-Abuqrāt 'alā ṭarīq al-mas'alah wa-l-jawāb*);⁵⁰ second, the *Fruits of the Nineteen Extant Parts of Galen's Commentary on Hippocrates' Epidemics in the Form of Questions and Answers* (*Thimār al-tis' 'ashara maqālah al-mawjūdah min tafsīr Jālīnūs li-kitāb Ibīdhīmīyā li-Abuqrāt 'alā ṭarīq al-mas'alah wa-l-jawāb*);⁵¹ third, the *Questions on Urine Extracted from Hippocrates' Epidemics* (*Masā'il fī l-bawl intaza'ahā min kitāb Ibīdhīmīyā li-Abuqrāt*);⁵² and fourth, a collection of *Aphorisms Drawn from the Epidemics* (*Fuṣūl istakhrajahā min kitāb Ibīdhīmīyā*).⁵³

Parts of the first compilation, the *Summaries*, survive under a slightly different title; the extant parts cover Galen's Commentary on Book 2 and the final parts of his Commentary on Book 6 of the *Epidemics*.⁵⁴ A compilation with a name that resembles the second title, *Fruit of Hippocrates' Book on Visiting Diseases* (*Thamarat kitāb Buqrāt fī l-amrād al-wāfidah*) is preserved in a single manuscript⁵⁵ and ascribed to Hunayn ibn Ishāq, but the medical terminology in this text differs in some important respects from that of the commentary itself and the *Summaries*. It may be the work of the physician Ibn al-Ṭayyib (d. 1043), who produced several epitomes based on Galenic works that are entitled *Fruit* or *Fruits* (*Thamarah* or *Thamarāt/Thimār*). The third compilation, the *Questions on Urine*, is lost; we only have a handful of quotations in later medical writings.⁵⁶ The fourth text, the *Aphorisms Drawn from the Epidemics*, may be extant in a single, now probably lost Baghdad manuscript.⁵⁷ While the text is ascribed to Hunayn, the terminology is again substantially different from that of the commentary and the *Summaries*. In addition, it does not contain a passage preserved

in al-Rāzī's (d. ca. 932) *Comprehensive Book* (*Kitāb al-Ḥāwī*) that is explicitly quoted from Ḥunayn's *Aphorisms Drawn from the Epidemics*.⁵⁸

Medical material drawn from the Arabic translation of Galen's *Epidemics* commentaries was also incorporated in a wide range of general medical writings that came in similar, also clearly didactic formats. Among them are for example works that organise medical knowledge in the form of tree-like diagrammatic tables which illustrate the relationships between the different branches of the science of medicine, the so-called *tashjīr* genre. Together with the polymath Ibn Bihriz (fl. ca. 800) and the physician Ibn Māsawayh (d. 857), Ḥunayn was one of the first Arabic scholars who used this particular format.⁵⁹

Conclusions

The techniques of adaptation outlined above illustrate the great lengths used by one translator, albeit a particularly talented and influential one, to appeal to his medical audience and fulfil its needs. As we know from his *Epistle*, Ḥunayn accommodated the needs of individual sponsors who asked him to produce these translations. He varied the style of translations to satisfy patrons who did not like the contemporary style of medical translations, which was often informed by the stylistic features of their Greek and Syriac sources. On the other hand, patrons who were experienced with this translation style asked for and received renderings that were closer to the Greek original.

In addition to his pronouncements in the *Epistle*, which illustrate his concern for his audience, the evidence of Ḥunayn's translations allows us to distinguish three major levels of adaptation he applied to serve the needs of his readers:

Amplifications, which are typical for a broad range of texts translated by Ḥunayn ibn Ishāq, constitute the first level of adaptation. Rather than individual stylistic preferences, these amplifications reflect his general desire for accuracy in the transmission of medical knowledge. As the character and extent of amplification shows, the meticulous and efficient transmission of medical information took precedence over the faithful reproduction of every detail of the original text.

At the second level of adaptation, Ḥunayn stepped outside the translated text and supplemented it with additional information and explanations, which were clearly marked to distinguish them from the surrounding text.

At the final level of adaptation, Ḥunayn then uncoupled medical information and its linguistic substrate: medical knowledge contained in translations was extracted and re-formatted in accordance with the needs of different audiences, for example as manuals for practising physicians, textbooks addressed to medical students and aphoristic summaries that could serve as aides-mémoire for medical scholars at all levels or as introductory writings for a wider audience.

Once the translations that came out of Ḥunayn's workshop had established an authoritative canon of Arabic medical translations, the latter genre of adaptation became the dominant form of re-fashioning Greek medical knowledge for

the needs of changing audiences. In addition to the scores of epitomes based on Galen's works that were written by Hunayn himself, his contemporaries and later authors eagerly joined in his effort to disseminate medical knowledge. Among them were for example his close contemporary, the mathematician and physician Thābit ibn Qurra (d. 901), who wrote a series of epitomes of individual Galenic writings under the titles *Summaries* (*Jawāmi*) or *Abridgement* (*Ikhtisār*). Somewhat later the above-mentioned Persian physician al-Rāzī penned short treatments of individual Galenic works interspersed with his own comments entitled *Outline* (*Talkhīṣ*), a title that was also used by the celebrated philosopher Ibn Rushd (d. 1198) both for his short philosophical commentaries and for equally brief writings based on several of Galen's medical works. In between these two, the physician Abū l-Faraj 'Abdallāh ibn al-Ṭayyib, mentioned before, condensed a wide range of Galen's writings into treatises entitled *Fruits* (*Thimār*). Finally, the Jewish philosopher and physician Moses Maimonides (d. 1204), a contemporary of Ibn Rushd, wrote a number of extracts under the title *Synopsis* (*Mukhtaṣar*).⁶⁰

These writings illustrate the continuing high demand for concise and accessible guides to Galen's medical thought. They also illustrate that ancient medical writings were read, analysed and summarised mainly as sources of practical knowledge. This attitude was characteristic not just for Hunayn ibn Ishāq's translation activities but for the Graeco-Arabic translation movement as a whole, which started out with translations of works that supplied much-needed applied knowledge and then branched out into works that provided theoretical knowledge for the developing scientific and philosophical tradition.⁶¹

Notes

- 1 Edited by Bergsträßer (1925) with additions and revisions in Bergsträßer (1931); cf. also Ullmann (2002–7: I.30–1) and Käs (2010), who edited and translated a recently discovered abbreviated version of the *Epistle*.
- 2 As we will see below, these amplifications fall under the heading of “explicitation” as defined in modern Translation Studies: “the technique of making explicit in the target text information that is implicit in the source text” (Baker 1998: 80–4, here: 80).
- 3 The best general accounts of the historical context, development and impact of the Graeco-Arabic translation movement are Endress (1987, 1992) and Gutas (1998).
- 4 On Hunayn ibn Ishāq and his translation methods, see Strohmaier (1991) and Brock (1991). The group Hunayn led has variously been called a “school”, which suggests a degree of cohesion and methodological standardisation that they and other such circles probably did not display; see Endress (1997: 48–9), who described them as “groups held together by various bonds of origin, loyalty, scientific orientation and, most important, by their patrons”. For the term “workshop”, see Vagelpohl (2010: 252).
- 5 Many medical translations are anonymous or were falsely ascribed to Hunayn; Bergsträßer (1913), who studied a small sample of such texts, attempted to distinguish the terminological and stylistic fingerprints of Hunayn and his nephew Hubaysh but ultimately did not get very far; see the criticisms voiced by Strohmaier (1970: 26–32), who was able to show that many stylistic and terminological features Bergsträßer associated with Hubaysh are also characteristic for other translators working with and for Hunayn, and Overwien (2012: 153–4).

- 6 Micheau (1997) portrays the sponsors Ḥunayn named most frequently in the *Epistle*.
- 7 As Ḥunayn noted in the introduction to the *Epistle*, he had to compile the information about extant Syriac and Arabic translations of Galen from memory since he had lost his library (Ḥunayn, *Epistle*, Introd., ed. Bergsträßer 1925: 1.9–16, 3.4–14 [Ar.]), apparently as a consequence of falling out of favour with the caliph. The most extensive account of this episode, a purported autobiographical text written by Ḥunayn and transmitted in Ibn Abī Uṣaybi‘ah’s (d. 1270) *Best Accounts of the Classes of Physicians* (‘*Uyūn al-anbā’ fī ṭabaqāt al-aṭibbā’*’), is inauthentic (cf. the extensive discussion in Cooperson 1997: 239–43) but may at least contain a reliable outline of the course of events (Strohmaier 1965: 530).
- 8 Cf. Meyerhof (1926: 687) and Micheau (1997: 164–7).
- 9 Ḥunayn, *Epistle*, par. 129, ed. Bergsträßer (1925) 52.8–11, 13–15 (Ar.).
- 10 Cf. Meyerhof (1926: 687).
- 11 Ḥunayn, *Epistle*, Introd., ed. Bergsträßer (1925) 2.20–3 (Ar.).
- 12 Ḥunayn, *Epistle*, par. 4, ed. Bergsträßer (1925) 6.2–6 (Ar.).
- 13 Possibly Dāwūd ibn Sarābiyūn, a famous Nestorian Christian physician of the late eighth/early ninth century; cf. Meyerhof (1926: 719) and Micheau (1997: 159–61).
- 14 Ḥunayn, *Epistle*, par. 5, ed. Bergsträßer (1925) 6.14–17 (Ar.).
- 15 The Nestorian Christian court physician Salmawayh ibn Bunān (d. 840); cf. Meyerhof (1926: 718) and Micheau (1997: 150–2).
- 16 Ḥunayn, *Epistle*, par. 16, ed. Bergsträßer (1925) 15.4–5 (Ar.).
- 17 The Nestorian Christian court physician (and rival of Salmawayh) Yūḥannā ibn Māsawayh (d. 857), Ḥunayn’s former medical teacher; cf. Meyerhof (1926: 717) and Micheau (1997: 152–5).
- 18 Ḥunayn, *Epistle*, par. 56, ed. Bergsträßer (1925) 30.22–31.2 (Ar.).
- 19 The Nestorian Christian court physician Bukhtīshū‘ ibn Jibrīl (d. 870); cf. Meyerhof (1926: 718) and Micheau (1997: 157–9).
- 20 Quoted in Pormann and Savage-Smith (2007: 80).
- 21 See Strohmaier (1965: 529–30).
- 22 Ibn Abī Uṣaybi‘ah, *Best Accounts of the Classes of Physicians*, ed. Müller (1884) I.191.22–6.
- 23 See also the French translation and discussion of this passage in Salama-Carr (1990: 57).
- 24 Galen, *In Hipp. Epid. I*, proem., ed. Kühn (1828) XVIIA.8.13–9.15 = ed. Wenkebach (1934) 7.22–8.13.
- 25 Galen, *In Hipp. Epid. I vers. arab.*, proem., ed. Vagelpohl (2014) 78.13–80.8.
- 26 The Greek equivalent of “I want to clarify” (*urīdu bihī an ubayyina*) falls into a lacuna in the Greek text.
- 27 Galen, *In Hipp. Epid. I vers. arab.*, proem., ed. Vagelpohl (2014) 79.14–81.9.
- 28 This and the next passage are only extant in the Arabic translation: Galen, *In Hipp. Epid. I vers. arab.*, proem., ed. Vagelpohl (2014) 68.8–9.
- 29 Galen, *In Hipp. Epid. I vers. arab.*, proem., ed. Vagelpohl (2014) 68.16–19.
- 30 In the following examples, the Greek text of Galen, *In Hipp. Epid. I*, edited by Wenkebach (1934), is referenced as “Gr.”, the Arabic translation, edited by Vagelpohl (2014), as “Ar”.
- 31 On doublets or hendiadys in translations of Galen, see among others Thillet (1997). Tuerlinckx (2008: 480–5) analysed the use of doublets in the Arabic translation of the homilies of Gregory of Nazianzus.
- 32 Cf. e.g. Bergsträßer (1913: 50–1); Biesterfeldt (1973: 18); Cooper (2011: 85); Al-Dubayan (2000: 66); Garofalo (1986: xxiii); Meyerhof and Schacht (1931: 7); and Strohmaier (1970: 30–1) with examples.
- 33 Cf. Pormann (2004: 257–8).

- 34 Cf. Baker (1998: 80), art. "Explicitation".
- 35 Cf. Baker (1998: 289), art. "Universals of Translation".
- 36 Cf. Baker (1998: 82–3), art. "Explicitation".
- 37 The distinction between "text-oriented" and "reader-oriented" was used by Brock (1983: 4–5) to describe the evolving methodology of Greek-Syriac translations, but it can equally well be applied to the Graeco-Arabic translation movement. See also Gutas (1998: 140–1).
- 38 E.g. in the translations of Galen's *On the Capacities of Simple Drugs*, *Anatomical Procedures*, *Containing Causes*, *Antecedent Causes*, *Parts of the Art of Medicine*, *Medical Names*, and his *Commentaries on the Hippocratic Oath*, *Regimen in Acute Diseases*, *Aphorisms* and *Epidemics*; cf. Vagelpohl (2011) on Hunayn's notes in the translation of Galen's *Commentary on Books 1, 2, 3 and 6 of the Hippocratic Epidemics* and the pseudo-Aristotelian *Physiognomics*.
- 39 Cf. Vagelpohl (2011: 263).
- 40 This may not be the original arrangement; it is also conceivable, though less likely, that the copyists of these translations took Hunayn's annotations from the margins of their source manuscripts and inserted them into the text body.
- 41 Ullmann (2002: 32–3).
- 42 In Greek minuscule, the letters ν and γ could be easily confused, and ι and υ were pronounced the same, so this was an understandable scribal error.
- 43 Galen, *In Hipp. Epid. II vers. arab.*, VI.1, ed. Vagelpohl (2016) II.910.13–912.3; cf. Vagelpohl (2011: 276–7, no. 8).
- 44 Galen, *In Hipp. Epid. II vers. arab.*, V.1, ed. Vagelpohl (2016) II.762.5–764.9; cf. Vagelpohl (2011: 272–4, no. 6).
- 45 Galen, *In Hipp. Epid. II vers. arab.*, VI.3, ed. Vagelpohl (2016) II.794.1–796.3; cf. Vagelpohl (2011: 274–6, no. 7).
- 46 Ps. Aristotle, *Physiognom. vers. arab.*, ed. Gherseti (1999) 4.2–6, 14.18–17.16. The two notes cite Galen's *The Capacities of the Soul Depend on the Mixtures of the Body* and the second book of his *On Mixtures*.
- 47 Ps. Aristotle, *Physiognom. vers. arab.*, ed. Gherseti (1999) 9.14–21, 17.16–18.
- 48 Cf. Vagelpohl (2011: 256–7) and Grignaschi (1974: 290–1).
- 49 Ibn Abī Uṣaybi'ah, *Best Accounts of the Classes of Physicians*, ed. Müller (1884) I.197.24–200.27.
- 50 Ibn Abī Uṣaybi'ah, *Best Accounts of the Classes of Physicians*, ed. Müller (1884) I.200.21–2.
- 51 Ibn Abī Uṣaybi'ah, *Best Accounts of the Classes of Physicians*, ed. Müller (1884) I.199.10–11.
- 52 Ibn Abī Uṣaybi'ah, *Best Accounts of the Classes of Physicians*, ed. Müller (1884) I.199.20–1.
- 53 Ibn Abī Uṣaybi'ah, *Best Accounts of the Classes of Physicians*, ed. Müller (1884) I.199.16.
- 54 On this text and the apparent contradiction between the title reported Ibn Abī Uṣaybi'ah and the actual contents of the extant work, cf. Hallum (2012: 188–9).
- 55 Ms. Bombay, Univ. Libr. 313, fol. 1v–29v.
- 56 Cf. Hallum (2012: 187).
- 57 Ms. Baghdad, al-Mathaf al-'Irāqī 649, fol. 181v–185v; cf. Sezgin (1970: 406).
- 58 Al-Rāzī, *Comprehensive Book*, ed. Hyderabad (1955–70) XIX.139.8.
- 59 Cf. Endress (2006: 112).
- 60 Many of these works are extant, but they have been relatively neglected. The names of the treatises listed here, which sometimes overlap or shade into commentaries, parallel those of philosophical writings. These have received more attention; cf. Gutas (1993) on the genres and titles of Arabic logical works.
- 61 Cf. Gutas (1998: 107–20).

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7 Medical knowledge as proof of the Creator's wisdom and the Arabic reception of Galen's *On the Usefulness of the Parts*

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In keeping with the focus of the present volume, this contribution¹ discusses how a medical text, namely Galen's *On the Usefulness of the Parts*, was adapted in the Arabic-Islamic world of the ninth to the twelfth century by a non-medical audience for a non-medical purpose. That purpose was to gather observable evidence for the existence and the wisdom of the Creator manifest in His creation, i.e. in the world and particularly in the human body. This discussion is in no way intended to imply that the Arabic *On the Usefulness of the Parts* was read only, or even primarily, by a non-medical audience. The sole claim here is that it was also read by a non-medical audience and that their particular interest in it was different from that of the medically trained readership.² I will also suggest that the acceptance and reception of Galen's teleological arguments were furthered and facilitated by a peculiarity of the Arabic version of *On the Usefulness of the Parts*, namely that it no longer features Galen's personified Nature and is thus exclusively in praise of the Maker.³ Interestingly, this broadening of the audience beyond the medical domain is what Galen had already hoped for when composing his treatise, and the present chapter is meant to illustrate that that was also achieved in the Arabic-Islamic Medieval world.

The perfect arrangement of the human body and of each of its parts indicates the existence of a creator and may thus function as an argument from design, i.e. the argument which infers from the end and purpose manifest in creation that a creator must exist. The perfection of the human body and all its parts not only indicates the existence, but also the wisdom, benevolence and providence of that creator. In Antiquity, this line of argument was most prominently developed by the famous Greek physician Galen in his epochal treatise *On the Usefulness of the Parts*.⁴ It was then taken up by Christian writers, most prominently by Nemesios and Theodoret in the fourth and fifth centuries,⁵ and entered the Arabic-Islamic world some centuries later, as early as the ninth century. One of the flaws that Galen's monotheist successors found in his account was that he conflated the Creator (*dēmiourgos*) with providential Nature (*physis*).⁶ This flaw is rectified in the preserved Arabic translation of *On the Usefulness of the Parts*, which is entitled the *Book on the Uses of the Parts* (*Kitāb fī Manāfi' al-aḍā'*) and was probably made in the mid-ninth century by Ḥubayš, the nephew of the famous Arab Christian translator Ḥunayn ibn Ishāq (808–73).⁷ In this Arabic translation,

creative and personified Nature has been effaced and thus the Creator (*al-ḥāliq*)⁸ remains the sole demiurgic principle mentioned. Interestingly, the translation is no attempt at Christianising the Galenic text. The well-known critique of Moses and his omnipotent God, for example, is left untouched.⁹ Yet, the crucial point appears to have been to present Galen as decidedly acknowledging the Maker and not as the agnostic he was with regard to the nature of the Creator, best visible in his oscillation between the terms “Demiurge” and “Nature”.¹⁰ We may thus conjecture that only in that way could it have been assured that Galen and his arguments from design would be received by the theologians and philosophers of the Arabic-Islamic world who made Galen’s *Book on the Uses of the Parts* a triumphant success.¹¹ If this conjecture is correct, the translator Ḥubayš would have intentionally adapted the Galenic text for its intended readership, who were, given the focus of the work, not only physicians but also scholars concerned with teleological arguments.¹² The Arabic reception of Galen’s *On the Usefulness of the Parts* would be a case in which a medical text came to be read as and thus finally transformed into a philosophical-theological treatise in the perception of its non-medical audience. It would, moreover, be a case in which the translator had actively prepared and promoted such a reception and thus apparently translated with a certain readership in mind.¹³ Curiously enough, in doing so he may even have been inspired by Galen himself, who had already claimed that *On the Usefulness of the Parts* was more important to the philosopher than it was to the physician.¹⁴

The Arabic reception of Galen’s *On the Usefulness on the Parts* does not, however, depend on Ḥubayš’s translation of the Greek text alone.¹⁵ Besides this direct transmission, there must have been a second, indirect transmission via late antique Greek re-workings of Galen’s material and/or Syriac translations of either these re-workings and/or the Galenic texts themselves. One of the first Arabic treatises which clearly uses Galenic arguments from design probably belongs to this second, indirect transmission.

The *Book of the Reflections on the Indications of the Creator* ascribed to al-Anbārī and the *Book of Examples and their Study* attributed to al-Jāḥiẓ

The *Book of the Reflections on the Indications of the Creator* (*Kitāb al-Fikar fī dalā’il ‘alā l-ḥāliq*) is ascribed to the Nestorian bishop Jibrīl ibn Nūḥ ibn Abī Nūḥ al-Anbārī (fl. 850).¹⁶ There also exists a reworked version of it entitled the *Book of Examples and their Study* (*Kitāb al-‘Ibar wa-l-i’tibār*) attributed to the renowned Muslim scholar and litterateur al-Jāḥiẓ (d. 868/9).¹⁷ The beginning of the text in the two versions states explicitly the aim of the treatise:

When people are ignorant of the reasons and meanings apparent in the creation (*ḥilqa*)¹⁸ and fall short of considering the properness and wisdom in it, they pass into a state of unbelief and denial until they renounce the creation of things and assume that their generation is due to inadvertence (*ihmāl*)¹⁹ and that there is neither art (*ṣan‘a*) nor decree (*taqdīr*) in it . . . So he, upon

whom God has bestowed knowledge and understanding of Him through considering this nature and perceiving the benevolence of the arrangement and the properness of the decree in its creation due to the indications (*dalā'il*) existing in it, has the duty to leave nothing undone to manifest (*izhār*) that at which his knowledge has arrived. He has to strive to spread, propagate and bring it to ears and minds so that the motives for believing become strong and the devil's tricks deceiving imagination are caused to fail. Thus he may anticipate the reward for that and may trust in the help and support of God, the Sublime, for him.²⁰

The author, to whom I will refer for simplicity's sake as Jibrīl ibn Nūḥ, discerns two states of mind which are harmful and may be corrected by his *Book of the Reflections on the Indications of the Creator*. The first one is the state characterised by simple unawareness and lack of attention to the wonders of creation. From this first state of mind, the second one may result when these people are asked or ask themselves about the creation's coming into existence and, due to their former negligence, answer that it happens haphazardly and without intention or planning. Interestingly, our author then concedes that the understanding of creation and what it implies, namely the existence of a wise Creator, are not given to anyone but are bestowed by God on whom He chooses. Here we may suspect that Jibrīl ibn Nūḥ is first and foremost thinking of himself, especially when we read on and learn that it is the duty of anyone so blessed by God to inform his less-blessed fellow-men about his insights. These must be communicated not only to the physical organs of sense perception, namely the ears,²¹ but also to the immaterial mind of his audience.

The character of the revised version becomes nicely apparent in the corresponding passage, which only occurs after an addition of three pages inserted at the very beginning:

When people are ignorant of the workmanship (*ṣan'a*) which indicates the Demiurge (*al-ṣāni*), may He be praised, and of the reasons and meanings which are apparent in the creation (*ḥilqa*), and when they fall short of considering the wisdom in it, because they are occupied with their own pleasure and desires and the matters of the world which they prefer, they pass into a state of unbelief and renouncement, untruth and denial, so that they renounce the creation of things and assume that these do not cease to exist in this manner and that they are due to inadvertence (*ihmāl*), not due to intention (*qaṣd*) and purpose (*ʿamd*), arrangement (*tadbīr*) and decree (*taqdīr*) . . . So he, upon whom God, the Sublime, has bestowed knowledge and understanding of Him through considering His power (*qudra*) and the traces (*āṭār*) of His workmanship because he perceives the signs (*āyāt*), illustrations (*bayānāt*) and proofs (*barāhīn*) which bear witness of the unity (*tawḥīd*) of God, to Whom belong might and majesty, and of knowledge (*ma'rifa*) of Him, has the duty to praise God for what He has granted to him and to spread this among the people and to indicate it to them. He further has the duty to make his knowledge

ineffaceable by²² writing books, to teach it through collections, commentaries and compositions and to confirm it to the minds so that the hearts of the believers become strong through it and so that in its presence the devils become ineffective. Thus he may anticipate the reward for his efforts to make the people understand^{23, 24}

Contrarily to Jibrīl, the author of the revised version makes abundantly clear from the beginning what is at stake, i.e. observance of the perfectly executed creation that itself indicates its Creator. He also shows less sympathy with people who are unobservant, claiming that they are distracted by seeking their own pleasures and that the aspect of the world which occupies them is not the one which may make them understand the creation and its Creator. He further accuses them not only of believing in a creation brought about by chance and coincidence, but also of believing in the permanence of the world which, according to them, does “not cease to exist in this [current] manner”. For our author this probably implies their denial of the *creatio ex nihilo* and the apocalypse. He then proceeds to state more explicitly what may be perceived in the creation that indicates God, namely signs, illustrations and proofs through which man is able to gain some kind of knowledge (*maʿrifa*) of God²⁵ and His unity. The mention of the concept of *tawhīd*, God’s unity, which is fundamental to Islam, gives the text an obvious religious colouring, although not necessarily Islamic, as the term is used by Christian writers as well.²⁶ Whereas Jibrīl’s reference to the ears and not to the eyes of his readers was noteworthy, the current author refers without fail to a written propagation of his, and others’, knowledge of God.

The indications of God’s existence, of His wisdom and power, are thus found in His creation and have to be seen and understood by man. Among these indications the perfect arrangement and functioning of the human body and of each of its parts figure prominently. Medical knowledge concerning, for example, the foetus and its development, the reproductive organs, the process of nourishment, vision, the production of voice, teeth, hair and even the four incorporeal powers or faculties of the body,²⁷ is thus transformed by our two authors into arguments from design. This is done along the following lines: an exhortation to consider a certain body part is followed by a description of the functioning of this part and the conclusion that such a perfect arrangement cannot come along by chance, but only thanks to the Creator. Often a less effective functioning is imagined which might have occurred, had the arrangement been otherwise.²⁸

The passage on the brain may serve as a typical example:

Indeed you may consider how, when the brain is uncovered, you find it wrapped by cover upon cover to protect it from harm and to keep it from moving around. Then the cranium surrounds it like a helmet (*bi-manzilat al-bayda*) to shield it from the force of a blow and a strike to the head. Then the cranium is covered with skin and hair, which is the head’s fur, so that it may guard the head against excessive heat and cold. So who has endowed the brain with this fortification and has decreed it in this way if not He Who has created it? For He knows that it is the source of sense perception²⁹ and worthy

of all this provident care due to its position in the body and the intellect being seated in it.³⁰

Whereas Jibrīl ibn Nūḥ's reference to anatomical dissection is veiled and the Creator is mentioned only at the end, the more elaborate version refers openly to dissection³¹ and introduces the Creator earlier in the passage. To do so, "He", i.e. "God" is said to be protecting and holding the brain, i.e. performing two functions which Jibrīl has attributed to the covers of the brain. We may understand this as Jibrīl ibn Nūḥ referring to the proximate cause, the second author to the remote cause:

Indeed you may consider how, when you lay open the brain, you find it wrapped by cover upon cover so that He, to Whom belong might and majesty, protects it from damages and holds it fast afterwards and then it does not move around. Then you may contemplate how a cranium, which is clothed with hair, surrounds it and is made like a protective helmet (*bi-manzilat al-bayḍa al-muḥaṣṣina*) for the head in days of war to shield the brain from the hurt of a blow. Then the hair is also clothing for the head like a cap and fur guarding against excessive cold and blazing heat. So who, do you think, has endowed the brain with this fortification and has decreed it in this way, if not the Kind (*al-laṭīf*) and the Knowing (*al-ḥabīr*)³² Who has created it? For He knows that it is the source of sense perception and worthy of all this provident care due to its position and being the seat of the intellect.³³

There is not one single passage in *On the Usefulness of the Parts* which is immediately apparent as a possible source of this section on the brain, yet several cover some of the aspects mentioned. When listing them in the English translation from the Greek it becomes evident how Galen switches almost effortlessly from talking about the Creator to talking about Nature and how both these expressions are employed interchangeably:

Now the encephalon had to be protected by a strong enclosure and Nature (*physis*) consequently did not merely entrust its defense to skin, as she did for the parts in the abdomen, but first, before the skin was put on, she invested it with a bone like a helmet.³⁴

. . . so on the head, already a well-tempered spot, he [the Creator] made, as it were, a cultivated field of hair, partly to absorb the moisture flowing there lest it harm the underlying parts, and partly to form a covering for the head itself.³⁵

The reasoning part of us, which is the real man, is situated in the encephalon and has as its handmaiden and servant the irascible [soul] (*thymos*) to protect it against this wild animal [i.e. the liver]. Wherefore our Creator (*dēmiourgos*) connected these parts with offshoots [nerves, veins, arteries] and so contrived for them to heed one another.³⁶

The source of sensation and of all nerves is in the encephalon.³⁷

Whereas Galen thus uses “Nature” and “the Creator” equivalently, his Arabic translator favours, as mentioned above, referring to the Creator alone and therefore suppresses the notion of Nature. He does so either by replacing “Nature” with “the Creator” or by rephrasing the sentence in question, for example rendering a sentence with “Nature” as the subject of an active voice into a passive. This happens in the first of the just cited Greek passages, which reads in Arabic as follows:

It was necessary that the brain be protected and defended by a fortified enclosure. Therefore, it is not restricted in its protection and defence to skin alone, as is done in the chest, without the bone of the cranium surrounding it, before the skin, like a helmet (*bi-manzilat al-bayda*).³⁸

The analogy between the cranium and a helmet is expressed by the same Arabic term in the Galenic *Book on the Uses of the Parts*, the *Book of the Reflections on the Indications of the Creator* and the *Book of Examples and their Study*. However, this is certainly not enough to assume that there was a direct influence of the Arabic translation of Galen’s work on Jibrīl ibn Nūḥ and (Pseudo?-) al-Jāḥiẓ. On the contrary, if we assume a dating of the *Book of the Reflections* and the *Book of Examples* to the first half of the ninth century, even chronological reasons would make dependence improbable, although not impossible. Moreover, Daiber has suggested that Jibrīl, in all likelihood, used Syriac sources.³⁹ And recently El Shamsy has pointed out that the Galenic *Book on the Uses of the Parts* uses a different term for describing saliva as a “vehicle of nutrition” than the *Book of the Reflections* and the *Book of Examples*. Whereas Galen’s translation employs the term “*markab al-ḡiḍā*”, the two other texts have “*maṭīyat al-ḡiḍā*”. El Shamsy has thus concluded that the “discrepancy supports the contention that the Galenic material in the *Iʿtibār* works made its way into the Islamic discourse through late antique reworkings and via a route of translation that bypassed the node of Ḥunayn”.⁴⁰

Another passage which corroborates this conclusion is the following analogy between the sound of the voice and the sound of a pipe in the *Book of the Reflections on the Indications of the Creator* and, almost identically, in the *Book of Examples and their Study*:

Even if the articulation of the voice resembles a pipe⁴¹ due to its being directed (*dalāla*) and informed (*taʿrīf*), it is in truth the pipe which resembles the articulation of the voice, for a pipe is artificial (*ṣanāʿī*) and the voice is natural. It is the art which imitates (*ḥ-k-ā* I.) Nature. Yet as art is more manifest to and known by the people than Nature, the works (*afʿāl*) of Nature are compared to the works of art, so that they understand and comprehend them. If art, which is marvelled at for the benevolence and wisdom apparent in it, imitates Nature, how much more must Nature and the benevolence of her works be marvelled at? For if inadvertence⁴² is too weak to accomplish that at

which art has arrived, it is much more so to accomplish that at which Nature has arrived.⁴³

Even if the analogy is different, the following passage from Galen's *On the Usefulness of the Parts* seems to be a very likely model for this:

It [the glottis] resembles the tongue of a pipe, particularly when viewed from above or below. By below I mean where the [rough] artery and larynx are joined together, and by above, the orifice formed by the upper ends of the arytenoid and thyroid cartilages. Instead of comparing this body to the tongue of a pipe, it would perhaps be better to compare the tongue of a pipe to this body; for indeed I think Nature is prior in time to art and acts more wisely. Hence, as this body is a work of Nature's and the tongue of a pipe is an invention of art, the pipe's tongue may then be an imitation of this body, invented by some clever man capable of understanding and imitating the works of Nature.⁴⁴

In both passages, the Arabic one from the *Book of the Reflections* and the *Book of Examples* and the Greek one from Galen, Nature appears to be personified and is said to employ wisdom in her works. This aspect is completely suppressed in the Arabic translation of the *Uses of the Parts*, which reads as follows:

I say if you regard this body from above and from below, you will find it resembling the tongue of a pipe. I mean by below the place in which the larynx meets the wind-pipe and is joined to it. I mean by above the mouth of the larynx which is connected to the two sides of the third and the first cartilages ending there. It is necessary that this body not be compared to the tongue of a pipe, but that the tongue of the pipe be compared to this body. For Nature (*ṭabī'a*) precedes art (*ṣanā'a*) and the works of creation (*ḥilqa*) are more benevolent and wiser than the works of art. So if this body is one of the works of creation and the tongue of a pipe is one of the inventions of art, the tongue of the pipe thus imitates (*ḥ-d-ā* VIII.) this body. He who made the pipe's tongue imitating this body is a wise man knowledgeable about the works of creation and capable of imitating it.⁴⁵

In this passage the Arabic translator has kept "Nature" only in the statement that "Nature precedes art". In what follows he has replaced it with "creation" or "works of creation". So Galen's Nature acting wisely becomes the works of creation which are wiser and more benevolent than the works of art. It seems highly improbable that Jibrīl ibn Nūḥ would have composed the above quoted passage based on this citation from the Arabic *Uses of the Parts*. For, although Jibrīl wants to demonstrate the existence, wisdom and power of the Creator, the personified Nature of his assumed Galenic source has survived in his text. It is, in my view, impossible to assume that Jibrīl would have introduced Nature, for which he shows no particular interest either in his work in general or in the present

context, in this passage on his own, without having found it in his source. So this source could thus not have been the preserved Arabic translation by Ḥubayš.

There remains the possibility that Jibrīl ibn Nūḥ had access to the Greek or the Syriac text of *On the Usefulness of the Parts*. The latter possibility especially seems highly plausible for a Christian originating from Anbar in Iraq in the ninth century. However, in such a case we would have to wonder why Jibrīl does not mention Galen by name, although he does cite Aristotle, both by name alone and even with reference to his *Book of the Animals* and the *Metaphysics*.⁴⁶ Unless we want to assume that our author has intentionally avoided any reference to Galen and his treatise, the fact is that he provides us with no evidence of having had direct access to *On the Usefulness of the Parts*. Yet, on several occasions, he mentions certain “books of medicine” as his source,⁴⁷ and we may venture the guess that this refers to medical compilations composed in the Galenic tradition.

So the *Book of the Reflections on the Indications of the Creator* and the *Book of Examples and their Study* may count as examples of the indirect Arabic transmission of Galen’s *On the Usefulness of the Parts* dating from the mid-ninth century. From the late ninth century onwards, scholars, philosophers and theologians writing in Arabic refer to Galen’s *Uses of the Parts* for their arguments from design. Those must have resorted to the direct transmission.

***On the Harmonisation of the Opinions of the Two Sages* ascribed to al-Fārābī**

The treatise *On the Harmonisation of the Opinions of the Two Sages Plato and Aristotle* (*al-Jam‘ bayna ra’yay al-ḥākimayn Aflātūn al-ilāhī wa-Aristūṭālīs*) attributed to al-Fārābī (d. 950/1)⁴⁸ sets out to prove that, although the philosophical doctrines of Plato and Aristotle often seem to be at variance, they are, in fact, in complete accordance. In a section which claims that both Greek philosophers taught the creation *ex nihilo*, the beginning and end of our world, the following passage occurs:⁴⁹

the Creator (*al-bāri*), Whose majesty is great, is directing the entire world and neither the weight of a mustard seed escapes Him nor anything of the parts of the world eludes His providence in the way which we have explained in our discourse about providence. For the universal providence spreads over the particulars and everything among the parts of the world and their conditions is subject to the best and most perfect arrangement (*mawāḍi*) according to what the books of anatomy,⁵⁰ the *Uses of the Parts* (*manāfi‘ al-aḍā*) and the discourses of natural science, which resemble them, indicate.⁵¹

The Creator is presented as the directing principle of the world and His providence is said to encompass the individuals, which is, in fact, not in accordance with the doctrine of Aristotle. It is claimed that the existing arrangement of all earthly matters is the best and most perfect, and for evidence in support of this claim, the reader is referred to “the books of anatomy and of the uses of the parts”.

These two references evoke the Galenic treatises bearing the same Arabic titles. The “books of anatomy” may refer to his several works on anatomy and dissection, the most prominent of which was probably *On Anatomical Procedures*, entitled in Arabic the *Book on the Practice of Anatomy* (*Kitāb fī ‘Amal al-tašrīḥ*). The second reference is, most probably, to the *Book on the Uses of the Parts* (*Kitāb fī Manāfi‘ al-a‘dā’*).⁵² For it seems that there existed no other Arabic work of importance with this title in the first half of the tenth century, when *On the Harmonisation of the Opinions of the Two Sages* must have been composed. It is only at the end of the tenth or the beginning of the eleventh century, thus after our author's lifetime, that Abū Sahl al-Masīḥī (d. 1010) wrote a treatise which is known by two titles, one of them being *The Uses of the Parts* (*Manāfi‘ al-a‘dā’*). And this is exactly the title of the Arabic translation of Galen's *On the Usefulness of the Parts*. The Arabic bio-bibliographer Ibn Abī Uṣaybi‘a (d. 1270), however, knows Abū Sahl's treatise by its other title and says the following about it:

I have seen his [i.e. Abū Sahl's] *Book on the Manifestation of the Wisdom of God the Sublime in the Creation of Man* in his own hand. It is of ultimate correctness, mastery, clearness in expression and precision. This book is among the best and most useful of his books, for in it he has brought forward the totality of what Galen and others have mentioned about the uses of the parts (*manāfi‘ al-a‘dā’*) in the clearest and most correct Arabic expression, together with noble additions from his side which indicate a splendid superiority and an abundant knowledge.⁵³

For Ibn Abī Uṣaybi‘a, the contents of al-Masīḥī's treatise are thus a comprehensive presentation of the Galenic knowledge of the uses of the parts. It is not entirely clear whether the bio-bibliographer intends to refer to the *Book on the Uses of the Parts* alone or whether he also thinks of other treatises by the Greek physician which treat this topic as well. It is further unclear whether the vague mention of “others” apart from Galen is more than a stylistic device and whether Ibn Abī Uṣaybi‘a actually had other physicians, Greek or Arab, in mind who dealt with the subject and whom he decided not to mention by name. In any case, it is striking that even in the thirteenth century the knowledge of the uses of the parts seems to be first and foremost associated with Galen. However, Ibn Abī Uṣaybi‘a stresses the progress in medical knowledge and the mastery of the Arabic language which make Abū Sahl al-Masīḥī's book stand out in comparison to Galen's. The last comment may well be a dig at the translation of the *Book on the Uses of the Parts*, the Arabic of which is highly complex and difficult to understand.

Thus to return to al-Fārābī's passage quoted above, we know, at least so far, of no plausible candidate other than Galen's treatise to which the reference to the *Book on the Uses of the Parts* might allude. In it, we even find an explanation for al-Fārābī's second reference to the “books of anatomy”, if we understand them also as “books on dissection”, i.e. as books conveying the knowledge gained by dissection. For Galen says in Book 17 of his *On the Usefulness of the Parts* that what he has shown in the previous sixteen books of his work, i.e. the wisdom and

power of the Creator displayed in the perfect arrangement of the body, does not only apply to humans alone, but to any animal which one may care to dissect.⁵⁴ The same line of argument reoccurs in his *On Anatomical Procedures*, where Galen claims that dissections teach not only medical knowledge, but also the wisdom of Nature:

An intelligent man looking for Nature's skill (*technē*) may grasp the matter sufficiently by one or two careful dissections by which it revealed what is highly useful for medical practice (*technē*) and by which the wisdom of Nature becomes manifest.⁵⁵

There is also an Arabic translation of *On Anatomical Procedures*, i.e. the *Book on the Practice of Anatomy* (*Kitāb fī 'Amal al-tašrīh*), which was probably translated by Ḥubayš and 'Isā, both students of Ḥunayn, and then revised and corrected by the latter.⁵⁶ For the most part, this translation also suppresses the notion of Nature, although a few occurrences remain.⁵⁷ The passage just quoted in the English translation from the Greek turns, in the Arabic, from a statement concerning Nature and her wisdom into a statement about the Creator and His wisdom:

When man has been raised towards good belief and sound opinion alone, he is content to come to understand the traces of the Creator's wisdom. He establishes them in one or two body parts which are thoroughly and accurately dissected and knows that the knowledge gained through their dissection is an extremely useful matter in medicine and that the traces of the [Creator's] wisdom are excessively and profitably manifest and clear through their dissection.⁵⁸

It is striking that the Arabic versions of the two Galenic treatises to which al-Fārābī most probably refers in the passage quoted above, namely the *Book on the Practice of Anatomy* and the *Book on the Uses of the Parts*, have almost entirely eliminated Nature and thus become accounts solely devoted to the Creator. So the hypothesis I proposed at the beginning of this chapter, namely that the Arabic translator has intentionally cleansed *On the Usefulness of the Parts* of any reference to Nature, may be extended to *On Anatomical Procedures* as well. It is therefore plausible that these two Galenic works could easily be perceived, by readers in a monotheistic milieu, as teleological accounts presenting arguments from design, and consequently be understood as talking about God, the Maker. It is further plausible that they became highly popular among non-physicians who did not look for the medical knowledge, but rather for indications of the Creator. If so, the interchangeable usage of "Nature" and "the Creator" would certainly have alienated these readers and would have made Galen's testimony less attractive in their eyes. Therefore, it is also plausible that the Arabic translator may have adapted the Galenic text in order to avoid these unwanted consequences.

We have seen the philosophical treatise *On the Harmonisation of the Opinions of the Two Sages* referring to two Galenic treatises for indications of the

perfect arrangement of the world. In the following, we will encounter a reference to these very same treatises in the context of a discussion of the studies of natural philosophers.

Al-Ġazālī's *Deliverance from Error*

In his autobiographical *Deliverance from Error* (*al-Munqid min al-ḍalāl*) the jurist, theologian and mystic al-Ġazālī (d. 1111) presents the development of his intellectual and religious convictions. In a section in which he describes the opinions of the natural philosophers (*ṭabī'īyūn*), we read the following:

They are a group who always investigate the world of Nature (*ṭabī'a*) and the wonders of animals and plants and who always become absorbed in the anatomical knowledge of the parts of the animals. So the wonders of the workmanship (*ṣan'*) of God the Sublime and the marvels of His wisdom, which they see in them, force them to acknowledge a wise Creator (*fāṭir*) Who reveals⁵⁹ the aims and ends of things. No one studies anatomy (*al-taṣrīḥ*) and the wonders of the uses of the parts (*manāfi' al-a'dā'*) without reaching the necessary knowledge of the perfection of the Builder's (*bānin*) direction of the building of the animals, in particular the building of man.⁶⁰

Whereas the beginning of this passage is a mere description of the natural philosophers, the last sentence seems to have a more general application and probably expresses al-Ġazālī's own opinion. For Menn, who is followed in this by El Shamsy, the reference to Galen's *On the Usefulness of the Parts* is "unmistakable".⁶¹ In view of the similarity to al-Fārābī's passage and Galen's own emphasis on the importance of the knowledge of anatomy and the uses of the body parts for understanding the Creator's wisdom, it is indeed highly likely that al-Ġazālī has the Galenic works in mind here. This interpretation is further strengthened by other writings of al-Ġazālī in which he applies, as El Shamsy calls it, an "empiricist teleology" indebted to Galen.⁶² Among these Ġazālian writings, there is *The Wisdom in God's Creations* (*al-Ḥikma fī maḥlūqāt Allāh*), which draws heavily on Jibrīl ibn Nūḥ's *Book of the Reflections on the Indications of the Creator*, but also directly on Galen's *Book on the Uses of the Parts*, as El Shamsy has shown.⁶³

The scholars presented so far who referred to Galen's *Uses of the Parts* for arguments from design, namely al-Fārābī and al-Ġazālī, were Muslim scholars.⁶⁴ In the Melkite Deacon 'Abd Allāh ibn al-Faḍl al-Anṭākī (*fl.* 1050), we have an example of a Christian scholar who did the same with an educated readership among the clergy and the laity in mind.

Ibn al-Faḍl al-Anṭākī's *Essay Containing Ideas Useful for the Soul*

In his *Essay Containing Ideas Useful for the Soul* (*Maqāla taṣtamil 'alā ma'ānin nāfi'a li-l-nafs*), Ibn al-Faḍl sets out to answer frequently asked questions by

drawing on statements from the Holy Fathers and philosophers. In a section in which he refutes the belief that our earthly matters are dependent on the stars, Ibn al-Faḍl refers to Galen's *Book of the Uses of the Parts*:

We say that it is agreed that God, may He be exalted, is generous, wise, and powerful.⁶⁵ The indication (*dalīl*) of His generosity (*jūd*) is His bringing existent things out of nothing into existence. The indication of His wisdom (*ḥikma*) is His perfecting them – if anyone wants to have deeper knowledge of this, he should read the *Book of the Uses of the Parts* (*Kitāb Manāfi' al-a'dā'*) by Galen. The indication of His power (*qudra*) is His joining opposites in bringing them into being. If this is so, then the mind cannot accept that He created something for which there is no need, because such does not come from someone wise. Now, He also created the intellect, and so if the guidance of human affairs were delegated solely to the stars, then His creating [the intellect] would have been without need. The indication of the falsity of this has already been stated; therefore the guidance of human affairs is not attributable to the stars but, rather, to the intellect centred within humans.⁶⁶

Ibn al-Faḍl is the first among the authors we have discussed here whose reference to the *Uses of the Parts* is unmistakably to Galen's treatise, the name of the Greek physician being explicitly stated. Furthermore, Ibn al-Faḍl is the only one who directly refers his readers to Galen's treatise so that they may obtain insight into the perfection of the creation, which, in turn, indicates its Creator's wisdom. His intention and vocabulary are, however, strikingly similar to the other texts presented so far.

Conclusion

We have thus seen evidence that Galen's *On the Usefulness of the Parts* and, to a smaller extent, his *On Anatomical Procedures* were not only read for their medical contents, but also for the arguments of design contained in them. In that way medical knowledge was transformed into philosophical and theological knowledge, and its audience was enlarged, being directed now not only to physicians, but also to scholars, theologians and philosophers. Such an expansion had already been hoped for by Galen himself. I have further suggested that in the Arabic-speaking world this development may have been helped by the fact that the Arabic translation of the *Book of the Uses of the Parts* suppresses Galen's demiurgic and personified Nature, whereby the Creator remains the sole principle of creation.

Notes

- 1 The research for this article was made possible by the Swiss National Science Foundation which granted the research project *Éléments philosophiques et théologiques dans les traditions médicales byzantine et arabe* (156439) at the University at Lausanne. I want to express my gratitude to the project leader Dr. Christophe Erismann

for various inspiring discussions of the topic and his helpful comments on this article. I would further like to thank the anonymous reviewer, whose critical reading was a great help in rendering more precisely some passages which had not been sufficiently clear. I also thank Dr. Byron MacDougall and Prof. Michael Trapp for their valuable suggestions. All English translations are my own, unless otherwise stated.

- 2 The sample of early Arabic non-medical texts which can be presented in the present context is necessarily limited and far from being in any aspect exhaustive. However, it still allows for one to draw some interesting conclusions. Further, it is not possible here to discuss in detail Galen's teleology or its adoption by each of the Arabic authors treated below. For the former, see, for example, Hankinson (1989: 206–27) and Schief-sky (2007: 369–400). For the latter, we have to await further research on the topic.
- 3 Since having started working on the preserved Arabic version of Galen's *On the Usefulness of the Parts*, I have always been intrigued by the fact that in this version the Creator remains the only creative power, personified Nature having been eliminated probably in the translation process. In the meantime, this fascination has developed into a full-fledged book project in which I gather all the textual evidence of Nature's elimination in *On the Usefulness of the Parts* as well as in the Arabic version of *On Anatomical Procedures* and show that the concept of personified Nature is kept in the translation of many other Galenic treatises. I also study the reception of *On the Usefulness of the Parts* in a number of Arabic authors, both medical and non-medical.
- 4 There are various English renderings of the Greek title *Peri chreias moriōn*, e.g. *Function*, *Utility*, *Use* or *Usefulness of the Parts*. The last one is the title adopted by the English translator of the entire treatise, May (1968), who justifies her choice on p. 9 of her translation. It is the one which I will use here.
- 5 See Nemesios's *On the Nature of Man*, in particular the section on providence, esp. Sharples, van der Eijk (2008: 206); and Theodoret of Cyrus's *On Divine Providence*. Grant (1983: 535) detects a reference to Galen's *On the Usefulness of the Parts* in Origen, but Boudon-Millot (2007: cv, n. 50) advises caution as Galen's name is not mentioned.
- 6 The most crucial of Galen's flaws being his attack of Christianity, on which see, for example, Walzer (1949). For his interchangeable use of Creator and Nature, see below and May (1968: 10–11). For a detailed discussion of Galen's concept of Nature, see Kovačić (2001).
- 7 In his well-known *Epistle (Risāla) on the Account of What was Translated of Galen's Books (Fī Dīkr mā turjima min kutub Jālīnūs)*, Ḥunayn mentions two Syriac translations of Galen's *On the Usefulness of the Parts*, one by Sergios and one by himself, and one Arabic translation by his nephew Ḥubayš for Muḥammad [ibn Mūsā] which he claims to have, in parts, revised and corrected. A later addition to the *Epistle* states that Ḥunayn translated the seventeenth book. See the edition in Lamoreaux (2016) 62, and esp. nn. 4–5. The older recension of the *Epistle*, which Bergsträsser (1925) has termed recension “B”, omits the mention of Ḥubayš's Arabic translation. However, as it stands the text of B poses a problem, for Ḥunayn would claim to have first translated *On the Usefulness of the Parts* into Syriac, then examined and corrected it. This would imply that he had not translated it correctly the first time round. Yet, whenever Ḥunayn mentions such incorrectness on his part in the *Epistle*, he always gives a reason for it, either that he was very young or that he only had a defective manuscript from which to translate. As he does not mention any such reason in the case of *On the Usefulness of the Parts* and as recension A offers a perfect solution by introducing Ḥubayš's translation which Ḥunayn had examined and corrected, I suggest accepting the information that Ḥubayš was the Arabic translator of *On the Usefulness of the Parts*. The later addition to the *Epistle* that Ḥunayn translated the seventeenth book is probably wrong, but can be explained by the fact that there exist two different versions of this book, one eliminating and one keeping personified Nature. However, it seems unlikely

that Hunayn and Hubayš would have disagreed on such a fundamental question as to whether the translation should eliminate or keep personified Nature. My hypothesis is that the second translation of the seventeenth book which keeps personified Nature was done by Ibn Zur‘a. I will discuss the issue in more detail in my book mentioned in n. 3. The manuscript tradition, however, ascribes the translation of *On the Usefulness of the Parts* to Hunayn. It is not uncommon that in preserved manuscripts of translations Hubayš’s name has become replaced by the name of his more famous uncle, especially as the outlines of their names written in Arabic (*rasm*) are very similar and may thus have been easily confused.

- 8 The term *al-ḥāliq* occurs once in the Koran (59:24). On the term, see Arnaldez (1978).
- 9 See, for example, Walzer (1949: 26–8).
- 10 On Galen’s agnostic views, see Nutton (2001: 27). I use the term “agnostic” as Galen himself uses it in his *On My Own Opinions*, ch. 2, namely with regard to the Creator’s essence, whether He is incorporeal or not and where He dwells; see Boudon-Millot and Pietrobelli (2005: 172.33–5). I do not, of course, want to imply that Galen was uncertain whether or not a creative principle existed, because in that case he would not have composed a treatise such as *On the Usefulness of the Parts*.
- 11 As it had been and continued to be in the Occident as well, see Boudon-Millot (2007: cxxxvi).
- 12 Unfortunately, Hunayn’s Syriac translation of *On the Usefulness of the Parts* is not known to be extant. So the question whether the suppression of Nature had already taken place in the rendering of the text from Greek into Syriac must remain unanswered.
- 13 Given that the research on the Arabic *Book on the Uses of the Parts* is still in its infancy, this hypothesis must, at least for the moment, remain pure conjecture. There is so far not even an edition of the entire Arabic text. For an edition and English translation of Book 16, see Savage-Smith (1969).
- 14 Galen says, for example, at the very end of his work, *UP*, 17.1, ed. Kühn (1822) IV.360.14–361.2 = ed. Helmreich (1909) II.447.23–448.3, tr. May (1968: 731):

Then a work on the usefulness of the parts, which at first seemed to him a thing of scant importance, will be reckoned truly to be the source of a perfect theology, which is a thing far greater and far nobler than medicine. Hence such a work is serviceable not only for the physician, but much more so for the philosopher who is eager to gain an understanding of the whole of Nature.

- 15 He indirectly translated the Greek text as he translated the Syriac translation made by his uncle. See n. 7 above.
- 16 The little we know about Jibrīl has been summarised by Montgomery (2013: 301–2) and esp. (2013: 508–9, n. 32).
- 17 On al-Jāḥiẓ, see, for example, Montgomery (2013). For a better understanding of the relation between the two treatises, we have to await Wim Raven’s critical edition of the two. A recent list of the extant manuscripts can be found in Montgomery (2013: 507–8, n. 28), to which we may add MS Ambrosiana E 205 described, studied and translated by Caruso (1991). The title *Book of the Reflections on the Indications of the Creator* (*Kitāb al-Fikar fī dalā’il ‘alā l-ḥāliq*) and the attribution to Jibrīl ibn Nūḥ ibn Abī Nūḥ al-Anbārī occur in only one manuscript, Aya Sofya 4836, fols 160a–187a, see Daiber (1991: 45–6). It was thus taken by Sezgin and Daiber (1975: 159) to be the source of the other version(s). According to Davidson (1987: 219, n. 40), the text of the Aya Sofya MS “is exactly the same as the printed Aleppo text”, i.e. the edition of a manuscript of the library of the Madrasa ‘Uṭmānīya in Aleppo by Muḥammad Rāḡib al-Ṭabbāḥ al-Ḥalabī (1928). However, the edition uses the title *Book of Indications and their Study regarding the Creation and its Arrangement* (*Kitāb al-Dalā’il wa-l-i’tibār ‘alā al-ḥalq wa-l-tadbīr*) and ascribes the treatise to al-Jāḥiẓ. It was re-edited in Beirut (1987/8). The text of this edition, or of the corresponding manuscript(s),

seems to be the basis of Haleem's English translation (1995), although this is nowhere stated explicitly. A more elaborated version entitled *Book of Examples and their Study* (*Kitāb al-'Ibar wa-l-i'tibār*), ascribed to al-Jāḥiẓ has been edited by Ṣābir Idrīs in Cairo (1994) on the basis of the British Library MS, Or. 3886, Add. 684 and a manuscript belonging to the Yemeni family Āl Ḥumayd al-Dīn. In its added preface, Jibrīl ibn Nūḥ al-Anbārī is mentioned as a source, along with three other Christian authors, which makes it rather unlikely that the author is indeed al-Jāḥiẓ. For further details on the preface, see Montgomery (2013: 300–2). The Italian translation by Caruso (1991) is primarily based on the manuscript of the Ambrosiana, but also considers the London manuscript as it is similar in contents. Gibb (1948: 150–62), who compared the Aleppo edition with the British Library MS, argued for the reverse order of textual development in which I have presented the matter. He assumed that the original British Library version had been simplified, summarised and shortened into the version being edited by al-Ṭabbāḥ, *idem* (1948: 151). For a list of contents of the *Book of Examples*, see *idem* (1948: 156–8).

- 18 I have emended the word order of the Arabic edition to read “*al-asbāb wa-l-ma'ānī fī l-ḥilqa wa-qaṣarū 'an ta'ammul al-ṣawāb wa-l-ḥikma fīhā*” instead of “*al-asbāb wa-l-ma'ānī wa-qaṣarū fī l-ḥilqa 'an ta'ammul al-ṣawāb wa-l-ḥikma fīhā*”. For in the edited text, as it stands, “the causes and meanings” in the first clause remain underdetermined and there occur two terms introduced by *fī* in the second clause.
- 19 “Inadvertence” is here used in opposition to “art” and “decree”, that is to “design” and “providence” and must thus be understood as equivalent to “chance” and “coincidence”.
- 20 Jibrīl ibn Nūḥ, *Kitāb al-Dalā'il wa-l-i'tibār*, ed. al-Ṭabbāḥ (1928) 2–3; (1987/8) 5.
- 21 One may wonder whether this explicit mentioning of the ears rather than the eyes implies that Jibrīl's work was meant not only to be read by individual readers on their own, but also to be read out aloud to groups. If the author was indeed the Nestorian bishop, we may think of the treatise being used in sermons. Another possibility, which the anonymous reviewer has suggested to me, is to read the mention as a reference to lecturing and teaching.
- 22 Reading *bi-l-kutub* instead of the edited *al-kutub*.
- 23 Reading *tabṣīrihi* instead of the edited *tabaṣṣurihi*.
- 24 [Pseudo?]-al-Jāḥiẓ, *Kitāb al-'Ibar wa-l-i'tibār*, ed. Idrīs (1994) 30–1.
- 25 For *ma'rifa*, see Arnaldez (1991).
- 26 There are numerous Christian theological, often apologetic, treatises which employ the term *tawḥīd* in their titles or in the titles of one of their chapters, for example *Maqāla fī l-tawḥīd* by Yaḥyā ibn 'Adī, *Maqāla fī l-tawḥīd wa-l-tatlīt* by Ibn al-Ṭayyib and *al-Qawl fī l-tawḥīd* in Isrā'īl al-Kaskarī's *Treatise of the Unity of the Creator and the Trinity of His Properties* (*Risāla fī Taṭbūt waḥdānīyat al-bārī' wa-tatlīt ḥawāṣṣihī*) to name just a few.
- 27 Listed are the attractive, retentive, digestive and expulsive powers or faculties.
- 28 Galen also pictures different, less perfect arrangements of individual body parts which would lead to negative consequences for the entire organism. For example, in the passage on the brain cited below, Galen, *UP*, 9.1, ed. Kühn (1822) III.688.18–689.4 = ed. Helmreich (1909) II.4.14–19, tr. May (1968: 426), continues:

Hence it [the brain] would not have been provided even with moderate elimination [of the residues gathered in it], let alone an elimination more copious than that of the other parts, if she [Nature] had not constructed many vents for it by making the bone of the head porous and variously articulated by means of the so-called sutures.

- 29 Reading *al-ḥiss* instead of the edited *al-ḥasan*. *Al-ḥiss* also occurs in the *Kitāb al-'Ibar wa-l-i'tibār*, ed. Idrīs (1994), see below, and corresponds to Haleem's translation (1995: 85) as well.
- 30 Jibrīl ibn Nūḥ, *Kitāb al-Dalā'il wa-l-i'tibār*, ed. al-Ṭabbāḥ (1928) 52; (1987/8) 48.

- 31 For the attitude towards dissection in Medieval Islam, see Savage-Smith (1995: 67–110).
- 32 The Kind (*al-laṭīf*) and the Knowing (*al-ḥabīr*) are two attributes of God occurring in the Koran. The former appears only twice in connection with the latter (6:103; 67:14); the latter is found four more times in connection with other attributes (6:18; 6:73; 34:1; 66:3).
- 33 [Pseudo?]-al-Jāḥiẓ, *Kitāb al-ʿIbar wa-l-iʿtibār*, ed. Idrīs (1994) 87.
- 34 Galen, *UP*, 9.1, ed. Kühn (1822) III.688.13–18 = ed. Helmreich (1909) II.4.9–13, tr. May (1968: 426).
- 35 Galen, *UP*, 11.14, ed. Kühn (1822) III.910.11–15 = ed. Helmreich (1909) II.161.27–162.4, tr. May (1968: 535).
- 36 Galen, *UP*, 4.13, ed. Kühn (1822) III.309.17–310.4 = ed. Helmreich (1907) I.227.10–15, tr. May (1968: 229).
- 37 Galen, *UP*, 3.11, ed. Kühn (1822) III.242.15–16 = ed. Helmreich (1907) I.178.3–4, tr. May, (1968: 191).
- 38 For the passages of the Arabic version of the *Uses of the Parts*, I have used the following three manuscripts, of which only the first one is complete: Paris, Bibliothèque Nationale, Arabe 2853; Bethesda, National Library of Medicine, A 30.1; and Escorial, Árabe 850. For the current passage, see MSS Paris 2853, fol. 153a20–22; Bethesda A 30.1, fol. 127a13–14; and Escorial 850, fol. 1a19–21.
- 39 See Daiber (1991: 45).
- 40 El Shamsy (2015: 105). El Shamsy ascribes the Arabic translation *Book on the Uses of the Parts* to Ḥunayn, without mentioning Ḥubayš, although he also refers to Bergsträsser’s edition of Ḥunayn’s *Epistle*, *idem* (2015: 101, n. 36). He probably accepts the attribution to Ḥunayn, which is given in the manuscript tradition.
- 41 In his English translation, Haleem (1995: 83–4) uses the term “bagpipe” for the Arabic term *mizmār*, which makes sense in the context of the previous passage, not cited by me, in which the lung is compared to a *ziqq*, i.e. “any receptacle, consisting of a skin, that is used for wine and the like” (Lane (1867) s.v.), through which the air passes.
- 42 For the understanding of this term, see n. 19 above.
- 43 Jibrīl ibn Nūḥ, *Kitāb al-Dalāʾil wa-l-iʿtibār*, ed. al-Ṭabbāḥ (1928) 51; (1987/8) 47; [Pseudo?]-al-Jāḥiẓ, *Kitāb al-ʿIbar wa-l-iʿtibār*, ed. Idrīs (1994) 86–7.
- 44 Galen, *UP*, 7.13, ed. Kühn (1822) III.561.2–11 = ed. Helmreich (1907) I.407.26–408.13, tr. May (1968: 358).
- 45 See MSS Paris 2853, fol. 126a17–23; Bethesda A 30.1, fol. 109a-15.
- 46 For references to Aristotle’s *Book of the Animals* (*Kitāb al-Ḥayawān*), see Jibrīl ibn Nūḥ, *Kitāb al-Dalāʾil wa-l-iʿtibār*, ed. al-Ṭabbāḥ (1928) 29, 33; to his *Metaphysics* (*Mā baʿd al-ṭabāʾa*), see *ibid.* 77 and to Aristotle alone, see *ibid.* 42, 53.
- 47 For references to the “books of medicine” (*kutub al-ṭibb*), see *ibid.* 33, 41, 45, 57, 58.
- 48 The authorship of the treatise has recently been doubted by Rashed (2009: 43–82) and Janos (2009: 1–17). Martini Bonadeo (2008) upholds al-Fārābī’s authorship in her recently published new edition of the Arabic text with facing Italian translation. I am not entering into this discussion about authorship, which is not relevant for our topic here, but for simplicity’s sake I will keep referring to the author as al-Fārābī.
- 49 This passage is also cited and discussed by Rashed (2009: 45–6).
- 50 The Arabic literally reads “the books of the anatomies” (*kutub al-tašrīḥāt*) which may refer to the different treatises Galen has devoted to the subject, i.e. in Arabic the *Book on the Dissection of Dead Animals* (*Kitāb fī tašrīḥ al-ḥayawān al-mayyit*), *Book on the Dissection of Living Animals* (*Kitāb fī tašrīḥ al-ḥayawān al-ḥayy*), *Book on the Anatomy of the Uterus* (*Kitāb fī tašrīḥ al-raḥim*), *Book on the Anatomy of the Eye* (*Kitāb fī tašrīḥ al-ʿain*) and *Book on the Application of Anatomy* (*Kitāb ʿAmal or ʿIlāğ al-tašrīḥ*), which al-Yaʿqūbī knows by the title *The Great Anatomy* (*Kitāb al-tašrīḥ al-kabīr*). For a list of Galenic works in Arabic, see Sezgin (1970: 98–102).
- 51 al-Fārābī, *al-Jamʿ bayna rayʿay al-ḥākimaẓn*, ed. Martini Bonadeo (2008) 67.

- 52 For Ormsby (1984: 189), it is clear that al-Fārābī here cites Galen's *On the Usefulness of the Parts*.
- 53 Ibn Abī Uṣaybi'a, *Kitāb 'Uyūn al-anbā' fī ṭabaqāt al-aṭibbā'*, ed. Müller (1882) I.327–8.
- 54 As mentioned above, n. 7, there exist two different Arabic versions of Book 17. In the first one, which is probably Ḥubayš's translation, the passage reads (MS Paris 2853, fol. 295a15–17):

So you must not take the traces of the wisdom and benevolence which we have expounded in our book as only existent in man alone, but you find the traces of the Creator's wisdom and power equally in any animal which you may take and then dissect. The smaller the animal, the more surprising it is [to find these traces] in it.

The second translation, which may be Ibn Zur'a's, has (MS Paris 2853, fols. 299b20–300a11; Ms Escorial 850 omits this passage):

It is not appropriate to imagine that the perfection which we have explained in our previous talk is only existent in man without any other animal than him. For, when you have in mind another animal, any animal you want, and then you dissect it, you find in it as much of the Creator's wisdom and power as you find in man. The smaller the animal, the more there is a surplus of wondrous things in it.

Cf. Galen, *UP*, 17.1, ed. Kühn (1822) IV.361.8–13 = ed. Helmreich (1909) II.448.9–14, tr. May (1968: 731).

- 55 Galen, *AA*, 2.2, ed. Kühn (1821) II.285.1–5 = ed. Garofalo (1986) 75.17–20, tr. Singer (1956: 33) slightly changed.
- 56 Garofalo (1986: x).
- 57 I discuss this in my forthcoming book on the Arabic reception of Galen's personified Nature. So far it seems to me that 'Isā may have been responsible for these remaining occurrences of Nature, whereas Ḥubayš has eliminated them systematically in his translation of *On Anatomical Procedures* as he does in his translation of *On the Usefulness of the Parts*.
- 58 Galen, *AA*, 2.2, ed. Garofalo (1986) 76.15–18.
- 59 Read as an active participle IV., *muṭli'* 'alā may mean “revealing sth.”; read as an active participle VIII., *muṭṭali'* 'alā may mean “being aware of”. I have opted for the former, because I think it would be strange if al-Ġazālī here only claimed that the Creator was aware of the aims and ends of things, and not their cause. The idea must be that the Creator reveals the perfection of things in order that they may be perceived by men and understood as arguments from design.
- 60 Ed. Jabre (1959: 19).
- 61 See Menn (2003: 184). He detects yet another reference, namely to Galen's *The Capacities of the Soul Depend on the Mixtures of the Body* a little further down in the passage, and criticises the editors and translators of al-Ġazālī's treatise for not having “recognised the obvious reference to Galen”, see *ibid.* 183. However, he says nothing about the possible reference to Galen's anatomical work(s). For his discussion of the entire passage, see *ibid.* 159, 183–4. El Shamsy (2015: 100–1) discusses this passage as well.
- 62 See El Shamsy (2015: 90).
- 63 See El Shamsy (2015: 94–106).
- 64 For the use of Galenic teleology by the great philosophers Ibn Sīnā (d. 1037) and Ibn Rušd (d. 1198) and the theologians Ibn Taymīya (d. 1328) and Ibn Qayyim al-Jawzīya (d. 1351), see El Shamsy (2015: 99–101, 107, 109).
- 65 For a discussion of the triad “generous-wise-powerful” in Christian Arabic authors, see my article, ‘What Does Aristotle Have to Do with the Christian Arabic Trinity?’ forthcoming in *Le Muséon*.
- 66 Ed. Sbath (1929) 132.11–133.3, treatise 9, tr. Noble (2014: 175), slightly adapted. The entire essay is translated by Noble (2014: 174–84).

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Part IV

The Byzantine world



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8 Physician versus physician

Comparing the audience of *On the Constitution of Man* by Meletios and *Epitome on the Nature of Men* by Leo the Physician*

Erika Gielen

Introduction

From the dawn of civilisation, people have been posing questions about the specificity of human nature. Such anthropological interests have included thoughts about the generation of man, the constitution of the body, its peculiar relation to the soul etc. The Byzantines, heirs of the Roman empire and its Hellenic culture, were no different in this respect. In the early centuries of their long-lasting empire, systematic accounts of various kinds can be found of the human constitution, presenting a variety of views on the question of what a healthy body should look like.¹

Until recently, medical historians mostly considered Byzantine medicine merely an area of stagnation. It was argued that the only contribution Byzantine medical authors had made, was simply to plagiarise the works of ancient physicians, especially those of Galen of Pergamum (AD 129–ca. 216), the most famous ancient medical author.² Contrary to such views, recent studies have shown that the way Byzantine authors looked at the human body – whether sick or healthy – both in medical theory and practice testifies to the fact that their input and their authorial voices were actually quite original.³ The omnipresent influence of the ancient medical authorities in their texts cannot be overlooked. Yet, within the framework of this classicising tradition, Byzantine (medical) authors tended to pursue their own authorial objectives, making them resonate with the needs and expectations of their contemporary audience, and especially with their Byzantine culture and Christian beliefs. I shall attempt to demonstrate this by focusing on two representative texts, which also have a special relationship to one another: the *On the Constitution of Man* (Περὶ τῆς τοῦ ἀνθρώπου κατασκευῆς) by Meletios⁴ and the *Epitome on the Nature of Men* (Σύνοψις εἰς τὴν φύσιν τῶν ἀνθρώπων) by Leo the Physician.⁵

Meletios and Leo the Physician

According to his own account in the preface to his work on human anatomy and physiology, Meletios was a monk in northwest Phrygia, at the monastery of the Holy Trinity in the town of Tiberiopolis.⁶ He also presents himself explicitly as a physician experienced in phlebotomy and cauterisation.⁷ Unfortunately, he gives

no other details about the period he was living in; hence the dating of his works is still subject to scholarly debate. Most scholars, however, place him in the (early) ninth century.⁸ With this dating, Meletios's text becomes one of the very few systematic treatises on human nature that has come down to us in its entirety from this period. The strikingly high number of extant manuscripts containing the complete work (or parts of it) (more than sixty), dating to between the thirteenth and the eighteenth century,⁹ clearly shows that the text was enormously popular, especially from the late Byzantine up to the early modern period. This might be explained by Meletios's writing aims, i.e. to provide a comprehensive account of human nature in its entirety as an intricate web of body and soul created by "God the Master Maker",¹⁰ structured according to the traditional *a capite ad calcem* ("from head to foot") format,¹¹ and based on all previous knowledge of the matter, both pagan and Christian.¹² Moreover, according to Meletios, his treatise was intended for those without any philosophical and medical background, thus providing an easily accessible account for non-experts, whose ultimate intention was not to become physicians.¹³ Such a comprehensible synthesis of human physiology and anatomy must have found a highly receptive audience, even long after Meletios's death, since in Byzantium medical knowledge was not considered the exclusive prerogative of professional physicians¹⁴ and since, as Warren Treadgold has pointed out, "to the Byzantines, real learning was familiarity with classical and Patristic authorities".¹⁵

Not a great deal is known about the second author under discussion, Leo the Physician.¹⁶ Although most often dated to the same century as Meletios, this Leo should most likely not be identified with his namesake Leo the Mathematician or the Philosopher,¹⁷ who lived in Constantinople in the ninth century. Most importantly here, his treatise *Epitome on the Nature of Men* turns out to be a compilation of Meletios's *On the Constitution of Man*. However, as will be shown, unlike Meletios, Leo seems to have had an audience of students in mind, who had to be introduced to the medical art.

In what follows, I will provide two case studies focusing on Meletios's and Leo's statements on the human head and brain, i.e. the starting point of an *a capite ad calcem* account, in order to draw preliminary conclusions on the exact relationship between the two texts and their interaction with their respective audiences. I would like to show that, although both authors built on the same immense scientific, literary, philosophical and theological tradition, they also challenged it in creating their works in such a way as to meet the expectations of their readers.

Meletios and Leo on the head

After an introduction in which he explains the general aims of his work and gives a brief summary of its contents, Meletios starts his survey of the human body. He justifies his choosing to start his account with the head by stating:

For the head is the first of our [bodily] parts, because [it is] the workshop of our senses, and the highest, most prominent, most honourable and most supreme part of the body, in which the authoritative part of the soul rules.¹⁸

What follows is a rather detailed anatomical analysis of the cranial sutures, the physical nature of the brain and the different shapes of the human skull, in which, *inter alia*, brief definitions taken from the pseudo-Galenic *Medical Definitions*¹⁹ alternate with etymological explanations of medical terms,²⁰ helping to elucidate the true nature of the parts discussed. Thus, for example, the pseudo-Galenic definition of ἐγκέφαλος that he adopts, i.e.

the brain is white and soft, as if it has been solidified from some sort of foam, and it is moist and cold,²¹

is preceded by the etymology of various terms to denote the head, such as κεφαλή, κράτα and κρανίον,²² and is in turn followed by the etymological analysis of the very term ἐγκέφαλος itself:

it is called brain since it lies in the head and the uppermost part of the body; or simply ἔγκρανος, because it is located specifically in the head.²³

The latter etymology is, in its turn, followed by yet another definition taken from pseudo-Galen, i.e. a definition of μύξα, that is mucus or discharge from the nose:

for mucus is a cleansing excretion of the brain, which lightens the authoritative part of the soul.²⁴

Yet, what is most striking is the way in which all this medical information is framed: “one must start with a discussion of this [i.e. the head]”, Meletios says, in order to “examine the power, or rather the intelligence and wisdom of our Creator and God, and to say ‘Great is our Lord, and great is his strength, and of his understanding there is no sum’”.²⁵ This latter quote turns out to be Psalm 146.5. Moreover, Meletios’s structural choice in starting his account with a discussion of the head is supported by the Church Father Basil the Great (ca. 329–79 AD). Indeed he is quoted as an authority by Meletios:

[God] placed the head at the highest part of the body, and established in it the worth of most of the senses: there [is located] the sight, the sense of hearing, taste, and smell. They are all placed close to one another. And albeit being confined in a small region, they do not hinder the activity of their neighbours.²⁶

Meletios took this passage from the final section of Basil’s *Homily on the Words “Be Attentive to Yourself”*,²⁷ a source which turns up in other parts of his *On the Constitution of Man*, such as in the chapters on ears and on the mouth.²⁸ Moreover, in the same line, one could point to the fact that Meletios’s initial description of the head as the “workshop of the senses”, as mentioned above,²⁹ was borrowed from another Church Father, Gregory of Nazianzus (ca. 329–90 AD), and in particular from his *Oration on Holy Baptism* (*Oratio* 40: *In sanctum baptismum*).³⁰

An initial look at the particular nature of Meletios's sources and working methods tells us that he is a physician, writing on (pagan) medical topics, yet unlike other Byzantine medical authors, he shows a consistent and explicit (i.e. through word-for-word references to the Fathers and the Bible) awareness of his and his audience's Christian identity. At first glance, one might, perhaps, suggest that Meletios was looking to give his treatise a lofty first chapter, basing it on the authority of the Bible and the great Church Fathers, and that such a theological approach was something of an exception. However, a detailed reading of the rest of his *On the Constitution of Man* shows that he follows a similar pattern throughout his treatise. For example, he starts his chapter *On Hands* by inquiring about the reason for man having hands. He does so by quoting two extensive passages from Gregory of Nyssa (335/340–after 394 AD)³¹ and two brief excerpts from pseudo-Basil of Caesarea,³² supplemented by more biblical references not found in Gregory or pseudo-Basil.³³ This is done in order to frame the subsequent (pagan) medical discussion on the anatomy of hands in a Christian perspective.³⁴

I shall now discuss how Leo, Meletios's "excerptor", deals with the same subject matter. It is evident from the very beginning that Leo largely eliminates the theological framework within which Meletios had introduced his first chapter, simply stating:

God, having placed the head on the highest part of the body, established in it the most valuable of the senses, and thus, even though they are confined in a small region, in no way do they hinder one another.³⁵

There are no verbatim quotations from the Psalms or the Church Fathers to lend extra authority to his statements. Though there is still a reference to God, Leo shows no signs of placing any emphasis on this. His intended audience does not consist primarily of fellow Christian non-experts, who wanted to learn about the human body, so they could admire the miracle of God's creation all the more, as in the case of Meletios,³⁶ but of inquisitive (student) readers, who wanted to receive basic medical knowledge for its own sake.

This is also clear from another special feature, which Leo adds to the information of his main source, Meletios: he copies the majority of the etymological explanations of the words concerning the head and the brain, yet introduces these with a brief question, such as "πόθεν ἐγκέφαλος;" ("What is the derivation of brain?") or "πόθεν μέτωπον;" ("What is the derivation of forehead?"),³⁷ followed by the etymological analysis. This question and answer format ("erotapokrisis"), which originated in the "schoolroom of philosophers",³⁸ had been a most popular and successful didactic method, used in various disciplines since Late Antiquity, and was also widely attested specifically in ancient and early Byzantine medical literature.³⁹ Through its dialogical and interrogative structure, the question and answer format provided teachers and students with a useful method to question and memorise all types of medical knowledge, both practical and theoretical. Thus, it is also employed by Leo throughout his text in order to enhance its educational character and didactic appeal.

As mentioned above, a recurrent feature in both Meletios and Leo are the etymologies of anatomical terms. Based on a comparative reading of Late Antique and Byzantine *Etymologica*, such as that of Orion (fifth century) or the *Etymologicum Magnum* (twelfth century), it has been suggested that most of these etymologies should be traced back to the lost *Etymologies of the Body of Man* (*Ετυμολογίαι τοῦ σώματος τοῦ ἀνθρώπου*) by the Greek physician Soranus of Ephesus (first/second century AD).⁴⁰ He is even mentioned by Meletios among his sources, although in corrupted form.⁴¹ For example, in his list of alternative terms for κεφαλή (“head”), Meletios suggests that the word κράτα etymologically derives:

from κράτος, as [it is] the ruling part residing here [i.e. in the head],⁴²

and that the head is also called κράνιον:

after [the verb] κρᾶνναι, that is to rule the other parts of the body.⁴³

Based on the information offered in the *Etymologicum* of Orion, as well as in the *Etymologicum Magnum*, it is clear that these (fanciful) etymologies were originally found in the work of Soranus.⁴⁴

One of Soranus’s special features might have been clarifying complex anatomical terminology and its corresponding etymological analysis using quotations from well-known poets, such as Homer and Callimachus. It is precisely such passages that have been copied by Meletios and are skilfully embedded in his text. One example is the explanation of why the sinews are called ἵνες (i.e. fibres):

ἵνες because the body derives its existence and cohesion from them, since they run throughout the body,⁴⁵

which is followed by a line from Homer in which Ulysses is talking to his mother in the underworld:

for the sinews no longer hold the flesh and bones together.⁴⁶

Thanks to this well-known line, the specialised, abstract definition of the sinews immediately became more tangible for a wider class of readers, who were all familiar with the Homeric poems.

There are even a few cases in which Meletios, in order to justify and elucidate variations in medical terminology, adds further biblical references – which, of course, cannot come from the pagan Soranus.⁴⁷ Selecting his sources in this way shows Meletios’s efforts to make the topics he discusses and which are “not readily comprehensible by all, but require considerable examination by many, especially for those inexperienced in medical and philosophical matters”,⁴⁸ easily accessible to a contemporary audience of non-specialist (Christian) readers.

As mentioned above,⁴⁹ Leo does copy Meletios's etymologies – they are a useful tool that helps readers to understand and memorise a great variety of anatomical terms quickly –, but he removes all the poetic references, which constitute a central feature of Meletios's text. Most likely, Leo considered them superfluous, as they would be of no help to future medical specialists. For example, his discussion of sinews simply reads:

What is the derivation of sinews? They are thus named, because the body has its being and cohesion from them.⁵⁰

As we can see, there is not a single quotation from Homer. However, in his didactic role, Leo has added an introductory question to his source text.

Meletios and Leo on cranial sutures

The different foci of Meletios's and Leo's works and their orientation towards readers with divergent expectations also emerge from their respective discussions of the sutures of the human skull.

Meletios starts this section with a quite literal, albeit abridged, quote from the Galenic treatise *On Bones for Beginners* (see Table 8.1 below). Meletios's use of exactly this source is significant. In his *On the Order of My Own Books* and *On My Own Books*, Galen presented this treatise as “τῆς ἀνατομικῆς πραγματείας ὑπάρχον πρῶτον” (i.e. the first in his treatment of anatomy), and mentioned it among “those works which he had dictated to young men at the beginning of their studies”.⁵² So no prior knowledge is expected. Interestingly, this work seems to have been one of Meletios's favourite sources, as he regularly uses excerpts from it throughout his treatise. That is the case, for example, in his chapter on hands in the description of the different bones that constitute the arm, or in his discussion of the wrist.⁵³

In his description of different kinds of skulls, Galen was inspired by a certain Hippocratic text, *On Head Wounds*.⁵⁴ In the very first paragraph of this treatise, the Hippocratic author distinguished four different types of skull, according to their arrangement of cranial sutures: [1] a skull with a prominence at the front; [2] a skull with its prominence at the back; [3] a skull with a prominence both at the front and at the back; and [4] a skull with no prominence at either end. Yet, in his description, the Hippocratic author did not show a preference for one type over another and did not refer to “normal” or “natural” kinds of skulls:

The heads of men are not alike, nor are the cranial sutures arranged the same in all. [1] He who has a prominence at the front of his head – a prominence is a rounded projection of the bone beyond the other bone – has his cranial sutures arranged as the letter *tau* (T) is written. For he has the shorter line situated transversely above the prominence, and the other, longer line situated longitudinally through the middle of the skull, extending invariably to the neck. [2] But he who has the prominence at the back of his head has his

sutures arranged the reverse of the former. For the shorter line is situated transversely above the prominence, and the longer line is situated longitudinally through the middle of the skull extending invariably to the forehead. [3] And he who has a prominence at both ends of his head, both front and back, in the same manner has his sutures arranged as the letter *eta* (H) is written. The long lines are situated transversely above each prominence, and the short line longitudinally through the middle of the skull extending in the direction of each prominence and terminating in the long lines. [4] But he who has no prominence at either end has his cranial sutures as the letter *chi* (X) is written. The lines are situated, one transversely extending to the temple on either side, the other longitudinally through the middle of the skull.⁵⁵

However, in his *On Bones for Beginners*, in the passage quoted above,⁵⁶ Galen started from the so-called “natural shape” of the human skull, “which is more prominent at the front and the back” and is characterised by three sutures: the coronal, sagittal and lambdoid sutures.⁵⁷ Then, he continues with his description of three possible variations of this “natural” scheme, i.e. in the pointed head with no posterior prominence, in the pointed head in which there is no anterior prominence and where “both the prominences are abolished”.⁵⁸

Meletios, then, in turn, starts from Galen, yet limits himself to only two different kinds of skulls: [1] the “natural shape, resembling an elongated ball”, with both anterior and posterior prominence and with three sutures that form the letter H; and [2] the skull with a “pointed shape” that is prominent at the front only (see Table 8.1 below). He skips Galen’s other two variations, i.e. the pointed skull with the prominence at the back (in which the coronal suture is lost, while the lambdoid and sagittal sutures remain and form the letter T) and the pointed skull with a prominence at neither end (in which the two remaining sutures form the letter X). The reason for this selection could be connected with the particular objective of Meletios’s treatise, namely to explain man’s body as created by God to fellow Christians. He therefore eliminated unnecessary references to exceptional features, thus complying with his overall aim of addressing an audience of non-experts. It should, however, be noted that Meletios’s compilatory reworking was not completely successful in this instance, as he gives incorrect, or at least inaccurate information, by adding – overenthusiastically – the verb *διασώζεται* (is preserved) to his source.⁵⁹ For he says that in the case of the pointed head, the lambdoid suture at the back is “destroyed” and that only the coronal suture is preserved. In Galen,⁶⁰ however, one reads that, when the posterior prominence is abolished, the lambdoid suture is as well, and when the skull shows no anterior prominence, the coronal suture is obliterated. So in both cases, two sutures always remain and form the letter T – something Meletios also mentions.⁶¹ On its own the coronal suture cannot form this letter, as stated by Meletios. When skipping the (Galenic) second case (no prominence at the front = no coronal suture) and rearranging the wording of his source, Meletios should have added the sagittal suture (*ἡ κατὰ μῆκος* – “length-wise suture”) alongside “*διασώζεται*”.

Table 8.1 Meletios and Galen on cranial sutures

Meletios, *On the Constitution of Man*, 1, ed. Cramer (1863) 53.4–13

Galen, *On Bones for Beginners*, 1, ed. Kühn (1821) II.740.3–741.3 = ed. Garofalo and Debru (2005) 45.14–46.15

Ἔχει δὲ ἡ κεφαλὴ **σχήματα** δύο· τὸ τε κατὰ φύσιν, καὶ τὸ φοξόν· καὶ τὸ μὲν κατὰ φύσιν προμήκει μάλιστα σφαῖρα προσέοικεν· προπετέστερον δὲ ὑπάρχει εἰς τε τὸ πρόσω καὶ τοῦπίσω, **τρεις ἔχει τὰς πάσας ἐν αὐτῷ ραφάς· τὴν στεφανιαίαν· τὴν λαμβδοειδῆ· καὶ τὴν κατὰ μῆκος·** αὐτὸ δὲ τὸ τῶν τριῶν ραφῶν **σχῆμα τῷ Η** ὁμοίωται γράμματι· τὸ δὲ φοξόν, τῆς μὲν ὀπισθεν ἀπολλυμένης ἐξοχῆς, καὶ ἡ λαμβδοειδῆς ραφὴ συναπόλλυται· τῆς δὲ ἔμπροσθεν, ἡ στεφανιαία διασώζεται· ὥστε τὸ τῶν σωζομένων ραφῶν **σχῆμα τῷ ταῦ γράμματι παραπλήσιον εἶναι** (The head has two shapes, the natural one and the pointed one. And the natural shape mostly resembles an elongated ball, as it inclines more forward and backward. In total, it has three sutures in itself, the coronal one [i.e. *sutura coronalis*], the lambda-shaped one [i.e. *sutura lambdoidea*] and the length-wise one [i.e. *sutura sagittalis*].⁵¹ The very shape of the three sutures resembles the letter H. Yet in the case of the pointed head shape, since the prominence of the occiput is destroyed, also the lambda-shaped suture is destroyed, but the coronal suture of the sinciput is preserved. In this way, the shape of the preserved sutures closely resembles the letter T).

Ἔστι γὰρ τὸ μὲν κατὰ φύσιν αὐτῆς **σχῆμα προμήκει μάλιστα σφαῖρα προσεοικός·** ἕτερον δὲ τὸ καλούμενον φοξόν· τὸ μὲν οὖν κατὰ φύσιν, **εἰς τε τὸ πρόσω καὶ τοῦπίσω προπετέστερον ὑπάρχον, τρεις ἔχει τὰς πάσας ἐν αὐτῷ ραφάς·** δύο μὲν γὰρ ἐγκαρσίας, ὧν ἡ μὲν ἑτέρα τέτακται κατ' ἰνίον, ἡ δὲ ἑτέρα κατὰ τὸ βρέγμα· τρίτην δ' ἄλλην ἐπ' αὐταῖς **κατὰ τὸ μῆκος** τῆς κεφαλῆς ἀπὸ μέσης τῆς ὀπισθεν ἐπὶ μέσῃ τὴν ἔμπροσθεν ἐκτεταμένην· ὀνομάζουσι δὲ **τὴν** μὲν ἐν τοῖς πρόσω **στεφανιαίαν**, ἐπειδὴ κατὰ τοῦτο μάλιστα τὸ μέρος τῆς κεφαλῆς οἱ στέφανοι περιτίθενται, **τὴν** δὲ ὀπισθεν **λαβδοειδῆ**, διότι τὸ σύμπαν αὐτῆς σχῆμα τῷ Λ γράμματι προσέοικεν. **αὐτὸ δὲ τὸ τῶν τριῶν ραφῶν σχῆμα τῷ Η** μάλιστα ὁμοίωται γράμματι. αἱ μὲν δὲ τοῦ κατὰ φύσιν ἐσχηματισμένου κρανίου ραφαὶ τὸν εἰρημένον ἔχουσι τρόπον· αἱ δὲ τοῦ φοξοῦ κατὰ τάδε διάκεινται. **τῆς μὲν ὀπισθεν ἀπολλυμένης ἐξοχῆς, καὶ ἡ λαβδοειδῆς ραφὴ συναπόλλυται, τῆς δ' ἔμπροσθεν, ἡ στεφανιαία·** καὶ γίνεται καθ' ἑκάτερον αὐτῶν τὸ τῶν σωζομένων ραφῶν **σχῆμα τῷ Τ** γράμματι παραπλήσιον.

However, after the description of the cranial sutures, Meletios's account becomes even more interesting.⁶²

And these relate to men. The female, on the other hand, has only a single suture, which goes round in circular fashion, and circumscribes the skull. Based on this sign, one can distinguish the skulls of men and women in graves.⁶³

Although this statement follows on smoothly from the passage from Galen's *On Bones for Beginners*, it is not included in the Galenic text. Galen did not draw a distinction between the numbers of sutures in male and female skulls. Thus, although Meletios clearly starts from Galen, he adds information, which has been

totally rejected by Galen, without notifying his readers. This is, however, no fanciful invention by Meletios himself but turns out to be a borrowing from Aristotle. For in his *History of Animals*, Aristotle stated that:

the skull has sutures: one, of circular form, in the case of women; in the case of men, as a general rule, three, meeting at a point.⁶⁴

This difference in cranial sutures between men and women was explained by the fact that the male brain was bigger than the female brain. In making this statement, Aristotle did not openly imply any intellectual superiority of men over women. According to Aristotle, the purpose of the brain was to regulate the temperature of the heart. Men had larger brains than women because the region around the heart and lungs was most sanguineous and hot in males – more so than in females, simply because men tended to be bigger than women. Hence, they had more blood in the heart region and thus were hotter there, needed more ventilation and had more cranial sutures.⁶⁵

Most significantly, Aristotle's statements about the different number of cranial sutures in men and women were not generally accepted in medical literature. Physicians in Late Antiquity and Byzantium described the human skull and its sutures in the tradition of Hippocrates and Galen.⁶⁶ Yet Meletios did not follow this (medical) tradition (or at least, did so only partially). Apparently, Aristotle's information seems to be just what Meletios needs: it gives him the possibility to explain specific anatomical features in Christian terms. Later on, we read the following:

According to some of the Fathers, the three sutures of the male's head denote the Holy Trinity, the Father, Son and the Holy Spirit, as they form a unity of nature and identity of will, and make one look at what is above. In turn, the fact that the three sutures are joined into one represents the unity of essence and nature, and the single might of the single dominion. The one circular suture of the female's head symbolically indicates and represents the comprehensive and all-embracing unique authority of the whole circular universe, as well as the infinity of the one and divine power.⁶⁷

Meletios's direct source for this imagery remains a mystery. Another instance I found in which the Aristotelian "suture theory" was adopted is in Aristophanes of Byzantium, one of the most important Alexandrian grammarians (ca. 265/257–190/180 BC). His work *On Living Beings* (*Περὶ ζῴων*) was a condensed version of Aristotle's *History of Animals*, supplemented with information from other sources, such as Theophrastus.⁶⁸ In the second book of *On Living Beings*, Aristophanes, echoing Aristotle, stated that:

on the one hand, the male has three triangular-shaped sutures on his skull, which are joined to one another; on the other hand, the female has only one, circular, cranial suture, through which the female can be recognised.⁶⁹

The last part is especially interesting, as it recalls Meletios's practical statement that the bodies of men and women can be differentiated in graves thanks to the

fact that female skulls, supposedly, have only one, circular, suture. However, in (pagan) Aristophanes, there is, of course, no link with the Holy Trinity or any divine (Christian) authority.

Remaining then in Meletios's own Christian realm, one could point to the *Chronicle (Annales)* of Michael Glycas (twelfth century). In the first part, where Glycas discusses the creation of the world, he also deals with the creation of man and his bodily constitution. Analysing man's inner health and moistness, he says:

Man has several sutures, especially the male. For what reason? Because he has a larger brain. In order to have the place ventilated, the male needs more sutures.⁷⁰

This is in line with Aristotle's ideas about the function of the human brain and its sutures,⁷¹ and one could read between the lines the idea that women have fewer sutures than men, albeit without the specific (Aristotelian) statement that men usually have three cranial sutures and women normally just one, as we find in Meletios. Moreover, in Glycas, just like in Aristophanes of Byzantium, no allegorical interpretation of these sutures follows.

Even without a direct source, this passage in Meletios is no less significant. Meletios follows Aristotle and thus consciously deviates from his main source, i.e. Galen, because the statements of the Stagirite give him the opportunity to provide his readers with an allegedly theological explanation of an anatomical difference between the male and female skull: the man's three sutures represent the Holy Trinity, and the single female suture symbolises the one and only divine power.⁷² The Christian faith is mirrored in the anatomy of mankind, which was created by God.

If we look at Leo's text, we can see that he actually follows Meletios in his description of the sutures of the human skull. This means that he too – quite unlike other medical authors – makes a distinction between the male and female suture(s), thus subscribing to the Aristotelian tradition. However, he does not copy Meletios's theological explanation of this anatomical difference. He simply says:

The head has two shapes, the natural one and the pointed one. The natural shape has three sutures in itself, the straight length-wise one, the lambdoid one in the back and the coronal in the front; and also two other scale-shaped ones. But the pointed head destroys the lambdoid suture. And the female has one suture sent round in circular fashion.⁷³

Thus, he skipped the specific reference in Meletios to the Holy Trinity and the single divine power. Such an explanation is neither interesting nor necessary for his intended audience, viz. students of medicine. Instead, however, Leo added extra anatomical information: besides the three normal, "male" sutures (i.e. the coronal, lambdoid and sagittal sutures), he mentions "ἐτέρας δύο λεπιδοειδεῖς" ("two other scale-shaped sutures"). These are the so-called *suturæ squamosæ*

behind the ears, which are not mentioned by Meletios. But they are, for example, in Galen's *On Bones for Beginners*, where it is stated that:

also, two other lines run from behind forward above the ears or parallel with the one running the length of the head . . . For the bone extending down from the bone of the bregma, gradually becoming as thin as a shell, is placed under the one below which rises from the ears. Therefore, some do not simply call these sutures, but nevertheless they are shell-like sutures [λεπιδοειδεῖς ῥαφᾶς] or a shell-like gluing together.⁷⁴

This addition of further anatomical terminology is no exception in Leo's work. In his discussion of the six bones of the head, for example, Leo, following Meletios, states that among the six bones there are two so-called stone-like bones (λιθοειδῆ), i.e. the *ossa temporalia* or temporal bones.⁷⁵ Yet, as opposed to his main source, Leo also informs his readers that these bones are also called "scale-like bones" (λεπιδοειδῆ), a term that is not used by Meletios.⁷⁶

Moreover, to return to the cranial sutures, Leo skips Meletios's inaccurate statement about the remaining sutures in the pointed skull. For Meletios had said that this kind of skull is characterised by the coronal suture alone, whereas in reality, on this skull both the coronal and sagittal suture is preserved.⁷⁷ Leo simply states that the lambdoid suture is destroyed, thus implying that the other two sutures, i.e. the sagittal and the coronal, remain.⁷⁸

Thus, Leo is not a simple compiler of Meletios's work, as he is sometimes regarded, and which has led to his being neglected in modern studies.⁷⁹ He did not only read Meletios, but also other texts, and does not hesitate to supplement his account with extra information from independent sources, thus reshaping his major source according to his own didactic purposes.

Meletios and Leo on the brain

Another case that is similar to the above example can be found later on in Meletios's and Leo's accounts. Meletios explains that for reasons of protection the human brain is covered by two membranes, i.e. the so-called *dura* and *pia mater* between the bones of the skull and the brain. Just like the way he introduced his chapter on the head,⁸⁰ the way in which Meletios introduces this particular anatomical subject is most interesting. He starts his account as follows:

Look at the Creator's wisdom, because He has guarded the brain not just with one membrane, but with two. And each one has its own, different disposition. For the one membrane is thick and the other one thin. For if [God] had not wrapped and confined this [i.e. the brain] in these [i.e. membranes], and so to speak thoroughly swaddled it, it would be injured by contact with the bone, which is rougher and harder. Therefore, He has placed the thin membrane between the bone and the brain.⁸¹

Once more, Meletios uses his Christian belief to explain a particular anatomical structure. As a matter of fact, the content of this passage in Meletios is very similar to a passage from Galen's *On the Usefulness of the Parts of the Body*, in which the philosopher/physician discusses the role of the thick and thin membrane in the human skull:

If Nature had not placed the thin membrane between them [i.e. the thick membrane and the brain], the proximity of the thick membrane would have been painful to the brain. Now, just as Plato says that god has interposed both water and air between earth and fire, which have natures widely different from one another, so I say that, because the brain and cranium have widely different substances, Nature has placed two membranes between them . . . Hence, if Nature had created only the thin membrane, it could not have associated unharmed with the cranium; and if she had created only the thick membrane, in that case the brain itself would have been afflicted.⁸²

Yet, whereas the pagan Galen ascribes this well-considered anatomical construction to impersonal nature, the Christian Meletios points out to his fellow Christian readers the significance of God's intervention in the composition of man's head. Unlike the impersonal teleological approach in Galen and Meletios's personal reinterpretation, Leo once more removes all references to any divine intervention in his brief discussion of the two different membranes in man's head. This forces him to reformulate Meletios's statement quite drastically. Meletios's reference to God's wisdom and his conditional statement that "if God had not wrapped and confined the brain in these membranes, it would be injured by contact with the bone, which is rougher and harder", is simply turned into an absolute medical fact:

Two membranes guard the brain, a thick and a thin one, in order that the brain might not be injured by contact with the bone.⁸³

On the other hand, Leo does keep – albeit in a slightly abridged version – Meletios's subsequent comparison of the *pia mater*, or fine membrane, to the white, spongy membrane of a pomegranate. According to this the pomegranate's seeds are embedded in this membrane, so that they cannot slip away through the juice, just as the brain is firmly fixed in man's head by the *pia mater*.⁸⁴

The thick membrane is connected with the bone, while the fine one is connected with the brain – just as in the case of the pomegranate, from within and from without.⁸⁵

Such concrete "everyday" examples make a potentially complex exposé more tangible, both for non-experts with a casual interest in medicine⁸⁶ – in the case of Meletios – as well as, in Leo's case, for those at the beginning of their medical training.

Conclusion

Taking all the evidence from the case studies on Meletios's *On the Constitution of Man* and its "excerpting relative", Leo's *Epitome on the Nature of Men*, that have been discussed above, the following conclusions can be drawn. The Byzantines were well aware of an immense earlier literary, medical, philosophical and theological tradition; we saw Meletios, for example, referring in his introduction to Hippocrates, Galen, Basil the Great and Gregory of Nyssa.⁸⁷ However, these sources were not simply incorporated in Meletios's account, but were *used* to communicate medical knowledge efficiently and in an up-to-date way, according to the needs and expectations of a contemporary audience.

As he himself claims,⁸⁸ Meletios meets these expectations by creating a comprehensive survey of the human constitution, in which the most divergent sources alternate harmoniously. The authority of each of them, however, was acknowledged by Meletios's fellow Byzantines – a fact which probably also explains the extreme popularity of his text in later Byzantine periods. The inclusion of quotations from the Bible and ancient poetry increased the accessibility of the difficult subject matter on human anatomy and physiology for an audience of non-specialist readers. Moreover, it is clear that Meletios has a good knowledge of some Greek medical sources, while at the same time showing a consistent awareness of his audience's Christian identity. Thus in his *On the Constitution of Man*, written for pious fellow Christians wanting to understand man's body as created by God, ancient medical ideas are corroborated by quotations from Church Fathers, while other theological and philosophical statements are supported by medical quotations.

On the other hand, though Leo's work cannot be dissociated from Meletios's text, as it largely consists of excerpts from the latter, yet his aims are different. It should be borne in mind that, unfortunately, no introductory chapter – if there ever was one – in which the author might have given more information about his intentions, direct audience etc., survives from Leo's book. So we can only speculate, based on the treatise itself; and the way in which Leo treats the material offered by his main source, Meletios, points to an educational scene where only medical facts count. He strongly reduces Meletios's characteristically Christian approach and teleological bias and completely removes any poetic and Patristic references as unnecessary for medical students. Instead, he focuses on medical terminology and definitions, reworks phrases from Meletios to compile lists, while, on the other hand, adding erotapocritic (question and answer) formulas, which immensely facilitate the learning process, and he supplements Meletios's text with extra anatomical information. Thus he offers a concise, introductory survey, which could be easily consulted to find the essential theoretical background on the anatomy of the human body speedily. If "our" Leo is the same as the Leo of the *Epitome of Medicine* (Σύνοψις τῆς Ἰατρικῆς), we might picture him working in a hospital and writing for a narrow circle of students.⁸⁹ This might also explain the restricted circulation of his text. Indeed, judging from the manuscript tradition of

Meletios's and Leo's works, it seems that Leo's efforts were poorly rewarded. The numerical gap between the *codex unicus* of Leo's *Epitome*⁹⁰ and the significant number of surviving manuscripts of Meletios's work⁹¹ could not be greater. In a popularity contest pitting Meletios the physician-monk against Leo the physician the score would be decisively in Meletios's favour.

Notes

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- 1 Notable examples are the *On the Nature of Man* (*De natura hominis*) of Nemesios of Emesa (late fourth century AD) and the *On the Making of Man* (*De opificio hominis*) by Gregory of Nyssa (AD 335/340–after 394). On the use of medicine in early Byzantine literature, especially the Church Fathers, see, for example, Boudon-Millot and Pouderon (2005).
- 2 Hunger (1987: 304), e.g. in his discussion of medical works in the middle and late Byzantine periods, he speaks about a “zunehmenden inhaltlichen und formalen Verarmung”. Or see Strohmaier (1998: 169): “The chief claim to credit of Byzantine science – which had developed even fewer new ideas than Arabic science – was that it had preserved the original Galenic texts”. For a brief overview, see e.g., Scarborough (1984: especially ix), or Nutton (1984: 2), who, in his plea for a more dynamic reading of Byzantine medicine, still uses the image of “a solid, unyielding and unchanging monolith”, and refers to Oribasios, Aetios of Amida and Paul of Aegina as “medical refrigerators of Antiquity”. In Nutton (2004: 299), he speaks of “change within continuity”. According to Touwaide (2008: 15–16), the former negative evaluation of Byzantine medicine might be due to “an insufficient inventory and analysis of the surviving manuscript evidence, the lack of a critical edition for many texts . . . and a classicising tendency that *a priori* favours Antiquity and its early Byzantine continuity and simultaneously rejects its subsequent developments”.
- 3 See, e.g., Congourdeau's statement on *iatrosophia* (Congourdeau 2004: 3): “Avant l'imprimerie, les manuscrits reproduisaient généralement un texte fixe avec un minimum de variantes. Ici, au contraire, chaque exemplaire est un *unicum*, celui qui le recopie . . . n'ayant aucun scrupule à changer le texte s'il connaît une recette plus efficace, qu'il l'ait lue ailleurs ou qu'il l'ait inventée. . . . Ce sont les manuels dans lesquels les médecins d'un hôpital consignaient les traitements qui s'étaient révélés efficaces dans le soin des patients”. Similar statements can be found in Bádenas de la Peña (1999: 467–8). A (positive) reevaluation of Byzantine medical literature is also offered by Bouras-Vallianatos (2014), who focuses on Alexander of Tralles and the undeniable link between (personal) medical and clinical practice and medical literature; or by van der Eijk (2010: 553), who emphasises the fact that medical compilation literature from Late Antiquity and the Early Byzantine period reflects “a lively discourse on the organisation, literary presentation and transfer of medical knowledge”.

- 4 A basic critical edition is offered by Cramer (1836: 1–157). There is a parallel Latin text alongside the Greek in ed. Migne (1862) 1069–326. The text consists of thirty-three chapters, at least according to the “author’s” table of contents (see Cramer 1836: 3–4). On the different structure and subdivisions in the editions of Cramer and Migne (*PG*), see Holman (2008: 81, n. 8). An account on the soul follows the discussion of all the bodily parts and fluids, 33, ed. Cramer (1836) 142.14–157.14. A commentary on the Hippocratic *Aphorisms* has also been ascribed to Meletios, but this tradition is quite unlikely; see Westerink (1985: 19–20); and Holman (2008: 80, n. 7).
- 5 A critical edition and English translation can be found in Renehan (1969: 16–61). A more recent and briefly annotated edition, accompanied by an Italian translation, is offered by Ieraci Bio (2006). The treatise is made up of seventy-eight short chapters, the first of which starts with a definition of the soul and man. Each chapter focuses on a bodily part, such as the cheeks (ch. 45) or the ears (ch. 47), or a medical/natural philosophical phenomenon or concept, such as the different kinds of faculties active in the human body (ch. 9) or respiration (ch. 15). English translations of passages from Leo’s *Epitome on the Nature of Men* are taken from Renehan (1969), though they have sometimes been slightly altered.
- 6 Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 1.5–8: Ἡ παροῦσα σύνοψις περὶ φύσεως ἀνθρώπου ἐπονήθη καὶ συνελέγη καὶ συντέθη παρὰ Μελετίου μοναχοῦ θέματος τοῦ Ὀψικίου Βάνδου Ἀκροκοῦ, χωρίου Τιβεριουπόλεως, μονῆς λεγομένης Τρεῖς, ἥτοι τῆς ἁγίας Τριάδος.
- 7 Cf. Meletios, *On the Constitution of Man*, 33, ed. Cramer (1836) 154.33–155.11: Αἱ γὰρ ἰδιότητες Μελετίου . . . οἷον τὸ εἶναι Βυζαντιαῖον, τὸ ἰατρόν . . . οἷον Μελέτιος ὁ ἐμὸς, ὅτε ἐστὼς ἀναγινώσκει, ἢ φλεβοτομεῖ, ἢ καίει τινὰ . . .
- 8 On Meletios and his dates, see Morani (1981: 132–50); Renehan (1984: 159–60); Talbot (1991); Ieraci Bio (2003: 32–5); Ieraci Bio (2005: 29); Holman (2008: 79–82); PmBZ n. 4947. The most recent source quoted by Meletios seems to be Maximos the Confessor (AD 580–662), which makes a date as late as the twelfth or thirteenth century, as suggested by Morani (1981: 149) quite unlikely. Moreover, the terms used by Meletios to describe his location (Opsikian θέμα [“theme”] and βάνδον [“bandon”] of Akrokos) seem to point to (or at least fit a dating in) the ninth century; see Holman (2008: 80).
- 9 See the list in the online database *Pinakes. Textes et manuscrits grecs*, at <http://pinakes.irht.cnrs.fr/notices/oeuvre/3275/> (accessed 1 July 2016). See also Diels (1906: 62–3).
- 10 Cf. Meletios, *On the Constitution of Man*, ed. Cramer (1836) 6.2–8.
- 11 Cf. Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 3.3: ἀπὸ κεφαλῆς ἕως ποδῶν.
- 12 Cf. Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 1.8–26:

Οὐχ ὥς καινόν τι ἐπινοήσαντος περὶ φύσεως ἀνθρώπου φυσιολογῆσαι, ἀλλὰ σύντομον καὶ ἀνελλιπῇ πραγματείαν ἐκθέσθαι τοῖς φιλομαθέσι καὶ φιλοπόνοις βουλομένου· εἰ γὰρ καὶ πολλοὶ τῶν ἀρχαίων σοφῶν, πολλοὺς κατὰ ἀποτάγην, ἢ ἐν συντόμῳ περὶ τῆς φύσεως ἡμῶν λόγους συνέθεντο, ἀλλ’ οὐδεὶς ἀνελλιπῇ καὶ ἀνυστέρητον ταύτην ἀπήρτησεν. Ὁ μὲν γὰρ Ἱπποκράτης περὶ φύσεως παιδίου καὶ ἄνδρος . . . Ὁ γὰρ Γαλῆνος περὶ φύσεως . . . Οἱ δὲ ἅγιοι καὶ τῆς ἐκκλησίας διδάσκαλοι, οἷον ὁ μέγας Βασίλειος, ὁ ἀδελφὸς αὐτοῦ Γρηγόριος Νύσσης, ὁ χρυσολόγος Χρυσόστομος καὶ ὁ παμμακάριστος Κύριλλος, καὶ ἄλλοι πολλοὶ. . .

See also Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 5.1–4:

Πόνημα ἐν συνόψει περὶ φύσεως ἀνθρώπου ἐξερανισθὲν καὶ συντεθὲν παρὰ Μελετίου μονάχου ἐκ τῶν τῆς ἐκκλησίας ἐνδόξων, καὶ τῶν ἔξω λογάδων καὶ φιλοσόφων.

On the use of the term ἡ ἔξω σοφία and related expressions by Byzantine authors (as, for example, in Meletios) to refer to secular/pagan learning, as opposed to Christian doctrine, which was καθ' ἡμᾶς, see, e.g., Bréhier (1941: 59–63); Dölger (1953); Nicol (1969: *passim*); Runciman (1970: especially 27–35); Meyendorff (1971: *passim*); Podskalsky (1977: 16–48); and Nicol (1979: 31–65).

- 13 Cf. Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 2.15–16: . . . καὶ μάλιστα τοῖς ἀπείρως ἔχουσι πρὸς φιλοσοφίαν καὶ ἰατρικὴν ἐπιστήμην. Even though we know for sure that Meletios was living in a monastery, there are no indications in the text that he is writing exclusively for an audience of monks or those who intended to become members of the clergy. So, references to Meletios's "non-expert" Christian audience may refer to laymen and clergy alike.
- 14 Congourdeau (2004: 7): "La connaissance de la médecine n'est pas l'apanage des médecins, elle fait partie de la culture des Byzantins".
- 15 Treadgold (1988: 373).
- 16 On Leo the Physician and his *Epitome on the Nature of Men*, see Renehan (1970); Kambylis (1973); Scarborough (1991); and Ieraci Bio (2006: 787–91 and 794–9). Leo might also have been the author of a *Σύνοψις τῆς Ἰατρικῆς* (*Epitome of Medicine*), which consists of seven books, the first of which deals with fever. The other books discuss disorders (and their mainly surgical treatments) related to specific bodily parts, which, just like in Meletios's text, have been arranged in "head to foot" order. The *Epitome of Medicine* was edited in the *Anecdota medica graeca* volume by Ermerins (1840: 79–221). On this text, see Bliquez (1999: 291–322); Zipser (2004) and (2005).
- 17 On this scholar, see, e.g., Wilson (1983: 79–84); Kazhdan (1991); *PmBZ* n. 4440.
- 18 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 51.24–7:

ἐπεὶ δὲ πρώτη τῶν ἐν ἡμῖν μελῶν ἡ κεφαλὴ ἐστίν, ὥς τῶν αἰσθήσεων ἐργαστήριον, καὶ τὸ ὑψηλότατον καὶ ὑπερεξέχον μέρος τοῦ σώματος, καὶ τὸ τιμιώτατόν τε καὶ κυριώτατον ἐν ᾧ τὸ ἡγεμονικὸν τῆς ψυχῆς βασιλεύει.

For Meletios's statements on the human head, see also Ieraci Bio (2003: 39–41, 2005: 37–44); she especially focuses on Meletios's discussion of "why man's head is spherical and not rather quadrangular, acute-angled, triangular or conical" (. . . διατί τὸ τῆς κεφαλῆς σχῆμα σφαιροειδὲς ἐστὶ, καὶ μὴ μᾶλλον τετράγωνον, ἢ ὀξύγωνον, ἢ τρίγωνον, ἢ κωνοειδές), Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 60.1–3. From the very beginning, Greek philosophers and scientists have been asking questions about the origin of thinking and the anatomical seat of cognitive and sensory faculties. The debate on the seat of the mind was the subject of fierce dispute throughout classical antiquity (van der Eijk 2005: 119–24). Despite the Stoic origin of the concept of τὸ ἡγεμονικόν as the authoritative or ruling part of the soul (see Adorno 1959), there is no need to ascribe explicit Stoic sympathies to Meletios. His imagery of the human brain as a leading charioteer holding the reins (viz. the nerves) (Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 58.9–20), for example, makes it clear that he is, in fact, following Galenic encephalocentrism. On this concept, see, e.g., Rocca (2003); Crivellato and Ribatti (2007).

- 19 On the pseudo-Galenic *Medical Definitions*, see especially Kollesch (1973). She also briefly touches upon the relationship between this text and *On the Constitution of Man* by Meletios; see Kollesch (1973: 63–6).
- 20 On the etymologies in Meletios, cf. p. 157.
- 21 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.19–20: ἔστι δὲ ὁ ἐγκέφαλος λευκός, μαλθακός, ὥσπερ ἐξ ἀφροῦ τινὸς πεπηγώς, ὑγρὸς, καὶ ψυχρός; cf. pseudo-Galen, *Def. Med.*, ed. Kühn (1830) XIX.358.8–9. Note, however, the reading "θερμός" (warm) in pseudo-Galen rather than Meletios's "ψυχρός" (cold).
- 22 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.10–18.
- 23 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.20–2: λέγεται δὲ ἐγκέφαλος παρὰ τὸ ἐγκεῖσθαι τῇ κεφαλῇ καὶ τῇ κάρᾳ· ἢ οἷον ἔγκρανος, διὰ τὸ

ἐγκεῖσθαι ἰδιώτερον τῷ κρανίῳ. Cf., e.g., Orion, *Etymologicum*, ed. Sturz (1820), s.v. ἐγκέφαλος, epsilon, 57; *Etymologicum Magnum*, ed. Gaisford (1848), s.v. ἐγκέφαλος, 310.30–2.

- 24 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.25–6: cf. pseudo-Galen, *Def. Med.*, ed. Kühn (1830) XIX.365.8–9: μύξα γάρ ἐστὶν ἀποκάθαρμα τοῦ ἐγκεφάλου, ὅπερ κουφίζεται τὸ ἡγεμονικὸν τῆς ψυχῆς μέρος.

- 25 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1863) 51.27–52.2:

... ἀναγκαῖον κατ’ αὐτῆς ἄρξασθαι, καὶ τὴν δύναμιν, μᾶλλον δὲ σύνεσιν καὶ σόφιν τοῦ δημιουργοῦ καὶ Θεοῦ ἡμῶν κατασκέψασθαι, καὶ εἰπεῖν· “Μέγας ὁ Κύριος ἡμῶν, καὶ μεγάλη ἡ ἰσχὺς αὐτοῦ, καὶ τῆς συνέσεως αὐτοῦ οὐκ ἔστιν ἀριθμὸς”.

The English translation of the quoted psalm is taken from Pietersma and Wright (2007).

- 26 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.3–9:

τὴν κεφαλὴν ἐπὶ τὸν ὑψηλότετον θεὸς τοῦ σώματος τόπον ἐν αὐτῇ τὰς πλείστων ἀξίας τῶν αἰσθήσεων καθιδρύσατο· ἐκεῖ ὄψις, καὶ ἀκοή, καὶ γεῦσις, καὶ ὄσφρησις· πᾶσαι ἐγγὺς ἀλλήλων κατωκισμέναι· καὶ οὕτω περὶ βραχὺ χώριον στενοχωρούμεναι, οὐδὲν ἐκάστη παρεμποδίζει τῇ ἐνεργείᾳ τῆς γείτονος.

- 27 Basil of Caesarea, *Homily on the Words “Be Attentive to Yourself”* (*Homilia in illud: Attende tibi ipsi*) (CPG 2847), ed. Rudberg (1962) 36.15–19.

- 28 Meletios, *On the Constitution of Man*, 7, ed. Cramer (1863) 75.11–16: cf. Basil of Caesarea, *Homily on the Words “Be Attentive to Yourself”* (CPG 2847), ed. Rudberg (1962) 37.2–6. Meletios, *On the Constitution of Man*, 10, ed. Cramer (1863) 80.17–20; cf. Basil of Caesarea, *Homily on the Words “Be Attentive to Yourself”* (CPG 2847), ed. Rudberg (1962) 37.6–7.

- 29 Cf. p. 154.

- 30 Gregory of Nazianzus, *Oratio 40: On Holy Baptism (In sanctum baptismum)* (CPG 3010), 39.3, ed. Migne (1858) 413.41.

- 31 Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 116.11–26: cf. Gregory of Nyssa, *On the Making of Man* (CPG 3154), ed. Forbes (1855) 138.21–140.6; and Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 116.26–117.20: cf. Gregory of Nyssa, *On the Making of Man* (CPG 3154), ed. Forbes (1855) 146.6–148.2.

- 32 Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 117.27–8: cf. pseudo-Basil of Caesarea, *Commentary on the Prophet Isaiah (Enarratio in prophetam Isaiam)* (CPG 2911), ed. Trevisan (1939) 3.115.14–17; and Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 118.6–7: cf. pseudo-Basil of Caesarea, *Commentary on the Prophet Isaiah* (CPG 2911), ed. Trevisan (1939) 3.115.17–18.

- 33 Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 117.29: cf. Psalm 27.4, and Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 118.1–2.

- 34 I am currently preparing an article in which a more detailed analysis of Meletios’s discussion of hands is offered and compared to the treatment of the same topic in the *On the Constitution of Man (De corporis humani fabrica)* by Theophilus Protospatharios (seventh or ninth century). As Meletios’s chapter on hands was not excerpted by Leo, this case study is not further developed in the present contribution.

- 35 Leo the Physician, *Epitome on the Nature of Men*, 24, ed. Renehan (1969) 26.6–8: Τὴν κεφαλὴν ὁ θεὸς ἐφ’ ὑψηλοτάτου τόπου τοῦ σώματος θεὸς ἐν αὐτῇ τὰς πλείστου ἀξίας τῶν αἰσθήσεων καθιδρύσατο· καὶ οὕτω περὶ βραχὺ χωρίον στενοχωρούμεναι, οὐδὲν ἕτερα τῇ ἑτέρᾳ ἐμποδίζει.

- 36 Cf., e.g., Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 6.7–9: ... ὥς ἂν ἔχοιμεν ἐξ ἐτοίμου μανθάνειν καὶ θαυμάζειν τὸν ἀριστοτέχνην Θεόν· καὶ μετὰ τοῦ προφήτου βοᾶν· “ἐθαυμαστώθῃ ἡ γνῶσις σου ἐξ ἐμοῦ” (= Psalm 138.6).

- 37 Leo the Physician, *Epitome on the Nature of Men*, 26, ed. Renehan (1969) 26.15–16. Cf. Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.20 and 54.1.

- 38 Papadoyannakis (2006: 94).
- 39 For medical questions and answers, on which a lot of work still needs to be done, see, e.g., Kollesch (1973: 35–46), Ieraci Bio (1995) and Leith (2009), who argues that the use of questions in certain medical papyri in order to systematise medical knowledge can be traced back to the Aristotelian scientific method. On the genre of *erotapokriseis* and its didactic qualities in general, see, e.g., Dörrie and Dörries (1966); Hunger (1986); Volgers and Zamagni (2004); and Papadoyannakis (2006).
- 40 On Soranus of Ephesus, see Hanson and Green (1994); see especially Hanson and Green (1994: 1021–4) for his *Etymologies of the Body of Man*.
- 41 Cf. Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 1.21–3: Σωκράτης δὲ ἐτυμολογίας μᾶλλον μορίων καὶ ὀνομάτων ἐν τῷ περὶ φύσεως ἀνθρώπου συντάγματι αὐτοῦ, ὡς γραμματικὸς ἢ φιλόσοφος συνετάξατο. On the (palaeographical) relationship between the reading Σωκράτης and the name of Soranus, see Voigt (1882: 7–9); Scheele (1884: 17–20); Renahan (1984: 160–1); and Hanson and Green (1994: 1021–2). One should, however, note that this palaeographical argument is only based on a limited number of witnesses. So whether the name of *Socrates* appears in all Meletios manuscripts needs checking. On instances of borrowings from Soranus in Meletios, see Voigt (1882: *passim*); and Scheele (1884: *passim*).
- 42 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.15–16: ἀπὸ τοῦ κράτος, ὡς ἐνταῦθα τοῦ ἡγεμονικοῦ τυγχάνοντος.
- 43 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 52.16–17: παρὰ τὸ κραίνειν καὶ βασιλεύειν τοῦ ἄλλου σώματος.
- 44 See Orion, *Etymologicum*, ed. Sturz (1820), s.v. κράτα, kappa, 89: Κράτα. τὴν κεφαλὴν. ἀπὸ τοῦ κράτος, ὡς ἐνταῦθα τοῦ ἡγεμονικοῦ τυγχάνοντος· παρὰ τὸ κραίνειν καὶ βασιλεύειν τοῦ ὅλου σώματος. Ὅθεν κρανίον καὶ κέρατα, τὰ ἐκ τοῦ κρανίου φυόμενα. Σωρανός. See also *Etymologicum Magnum*, ed. Gaisford (1848), s.v. κράτα, 535.3–7: Κράτα: Τὴν κεφαλὴν· ἀπὸ τοῦ κράτους, ὡς ἐνταῦθα τοῦ ἡγεμονικοῦ τυγχάνοντος· ἢ παρὰ τὸ κραίνειν καὶ βασιλεύειν τοῦ ἄλλου σώματος· ὅθεν καὶ κρανίον· καὶ κέρατα, τὰ ἐκ τοῦ κρανίου φυόμενα· οὕτω Σωρανός.
- 45 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 54.7–9: αἱ δὲ ἴνες τοῦ εἶναι τὲ καὶ συνεστάναι παρέχουσι τῷ σώματι· ἐπειδὴ περ ἴενται διὰ τοῦ σώματος.
- 46 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 54.10: οὐ γὰρ ἔτι σάρκας τε καὶ ὀστέα ἴνες ἔχουσιν; cf. Homer, *Odyssey*, 11.219.
- 47 See, e.g., Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 122.6–12: here, the etymology of δῶρον, meaning “palm of the hand”, and its lexicographical relation to the term παλαιστή, are supported by both verse 106 of the 4th book of the *Iliad* and Psalm 38.6. This will be discussed in more detail in the article I plan to write on the anatomy of hands in Meletios and Theophilus (cf. n. 34).
- 48 Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 2.12–16: οὐδὲ γὰρ πᾶσιν ὡς οἶμαι εὐληπτὰ εἰσιν . . . ἀλλὰ καὶ πολλῆς τὰ πολλὰ τοῖς πολλοῖς δεόμενα τῆς συντάξεως· καὶ μάλιστα τοῖς ἀπείρως ἔχουσι πρὸς φιλοσοφίαν καὶ ἰατρικὴν ἐπιστήμων.
- 49 Cf. above, p. 156.
- 50 Leo the Physician, *Epitome on the Nature of Men*, 28, ed. Renahan (1969) 26.30–27.1: Ὅθεν ἴνες; παρὰ τὸ παρέχειν τὸ εἶναι καὶ συνεστάναι τῷ σώματι.
- 51 For the actual position of the different cranial sutures, see, e.g., Sobotta and Becher (1967¹⁶: 22, 96–7 [fig. 84–5]), Oser-Grote (2004: 68–9, n. 85).
- 52 Galen, *Ord. Lib.*, 2.4, ed. Kühn (1830) XIX.54.15–16 = ed. Boudon-Millot (2007) 92.13–14, and Galen, *Lib. Prop.*, 1.2, ed. Kühn (1830) XIX.11.15–17 = ed. Boudon-Millot (2007) 137.1–7. See also Galen, *Lib. Prop.*, 4.1, ed. Kühn (1830) XIX.23.9–12 = ed. Boudon-Millot (2007) 145.27–146.1: Περὶ τῶν κατὰ τὴν ἀνατομικὴν θεωρίαν. Πρῶτον μὲν ἐν τούτοις ἐστὶ τὸ περὶ τῶν ὀστέων τοῖς εἰσαγομένοις γεγραμμένον, μετὰ τοῦτο δὲ ἔστιν ἄλλα τοῖς εἰσαγομένοις βιβλία. . . . (“Works of anatomical science. First in this category is *On Bones for Beginners*; after this, a number of other introductory books. . . .”). See also Boudon (1994: 1431–4). For the English translation of the

passages from Galen's *On the Order of My Own Books* and his *On My Own Books*, see Singer (1997: 4, 10 and 25). An annotated English translation of Galen's *On Bones for Beginners* is offered by Goss and Chodkowski (1984); see also Singer (1952).

- 53 On the bones of the arm: Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 118.18–28: cf. Galen, *Oss. Tir.*, 16, ed. Kühn (1821) II.767.14–768.12 = ed. Garofalo and Debru (2005) 73.7–74.11. On the wrist: Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 120.16–23: cf. Galen, *Oss. Tir.*, 18, ed. Kühn (1821) II.770.5–771.3 = ed. Garofalo and Debru (2005) 76.6–77.4. The Galenic passage quoted on the different head shapes and their respective sutures is also cited directly in Oribasios, *Coll. Med.*, 25.3, ed. Raeder (1931) II.52.2–20. So, in theory, Meletios could have excerpted directly from Oribasios rather than Galen. However, the evidence is against Oribasios playing such an intermediate role, as some Galenic sentences which are present in Meletios, were not copied by Oribasios, e.g., Meletios, *On the Constitution of Man*, 27, ed. Cramer (1836) 118.24–8: Κοιλότης δέ . . . ὀπίσω τὴν ὀπισθεν; cf. Galen, *Oss. Tir.*, 16, ed. Kühn (1821) II.768.5–12 = ed. Garofalo and Debru (2005) 74.1–8; not present in Oribasios, *Coll. Med.*, 25.14, ed. Raeder (1931) II.58.11–22. Or Meletios, 27, ed. Cramer (1836) 120.18–20: πῇ μὲν γὰρ εἰσὶ κυρτὰ . . . πρὸς ἄλληλα; cf. Galen, *Oss. Tir.*, 18, ed. Kühn (1821–33) II.770.7–10 = ed. Garofalo and Debru (2005) 76.8–12; not present in Oribasios, *Coll. med.*, 25.16, ed. Raeder (1931) II.59.9–16.
- 54 See, e.g., Hanson (1999: 96).
- 55 [Hippocrates], *Cap. Vul.*, 1, ed. Littré (1841) III.182.1–184.9 = ed. Hanson (1999) 62.3–21:

Τῶν ἀνθρώπων αἱ κεφαλαὶ οὐδὲν ὁμοίως σφίσιν αὐταῖς, οὐδὲ αἱ ῥαφαὶ τῆς κεφαλῆς πάντων κατὰ ταῦτα πεφύκασιν. [1] Ἄλλ' ὅστις μὲν ἔχει ἐκ τοῦ ἔμπροσθεν τῆς κεφαλῆς προβολὴν – ἡ δὲ προβολή ἐστι τὸ τοῦ ὀστέου ἐξέχον στρογγύλον παρὰ τὸ ἄλλο – τουτέου εἰσὶν αἱ ῥαφαὶ πεφυκυῖαι ἐν τῇ κεφαλῇ, ὥσπερ γράμμα τὸ ταῦ γράφεται. τὴν μὲν γὰρ βραχυτέραν γραμμὴν ἔχει πρὸ τῆς προβολῆς ἐπικαρσίην πεφυκυῖαν· τὴν δ' ἑτέραν, μακροτέραν γραμμὴν ἔχει διὰ μέσης τῆς κεφαλῆς κατὰ μῆκος πεφυκυῖαν πρὸς τὸν τράχηλον αἰεῖ. [2] Ὅστις δ' ὀπισθεν τῆς κεφαλῆς τὴν προβολὴν ἔχει, αἱ ῥαφαὶ τούτῳ πεφύκασιν τὰ ἐναντία ἢ τῷ προτέρῳ. ἡ μὲν γὰρ βραχυτέρα γραμμὴ πρὸ τῆς προβολῆς πέφυκεν ἐπικαρσίη, ἡ δὲ μακροτέρα γραμμὴ διὰ μέσης τῆς κεφαλῆς πέφυκε κατὰ μῆκος ἐς τὸ μέτωπον αἰεῖ. [3] Ὅστις δὲ ἀμφοτέρωθεν τῆς κεφαλῆς προβολὴν ἔχει, ἔκ τε τοῦ ἔμπροσθεν καὶ ἐκ τοῦ ὀπισθεν, τούτῳ αἱ ῥαφαὶ εἰσὶν ὁμοίως πεφυκυῖαι ὡς γράμμα τὸ ἦτα γράφεται. πεφύκασιν δὲ τῶν γραμμῶν αἱ μὲν μακრაὶ πρὸ τῆς προβολῆς ἐκατέρης ἐπικάρσιαι πεφυκυῖαι, ἡ δὲ βραχεία διὰ μέσης τῆς κεφαλῆς κατὰ μῆκος πρὸς ἐκατέραν τελευτῶσα τῇσι μακρῇσι γραμμῇσιν. [4] Ὅστις δὲ μηδετέρωθι μηδεμίαν προβολὴν ἔχει, οὗτος ἔχει τὰς ῥαφὰς τῆς κεφαλῆς, ὡς γράμμα τὸ χεῖ γράφεται. πεφύκασιν δὲ αἱ γραμμαὶ ἡ μὲν ἑτέρα ἐπικαρσίη πρὸς τὸν κρόταφον ἀφήκουσα· ἡ δ' ἑτέρα κατὰ μῆκος διὰ μέσης τῆς κεφαλῆς.

The English translation is from Hanson (1999: 63). On the anatomy on the skull in the Hippocratic *On Head Wounds*, see also Oser-Grote (2004: 67–72).

- 56 Cf. Table 8.1 above.
- 57 Galen, *Oss. Tir.*, 1, ed. Kühn (1821) II.740.5–16 = ed. Garofalo and Debru (2005) 45.16–46.6:

. . . τὸ μὲν οὖν κατὰ φύσιν, εἷς τε τὸ πρόσω καὶ τοῦπίσω προπετέστερον ὑπάρχον, τρεῖς ἔχει τὰς πάσας ἐν αὐτῷ ῥαφὰς . . . τρίτην δ' ἄλλην ἐπ' αὐταῖς κατὰ τὸ μῆκος . . . ὀνομάζουσι δὲ τὴν μὲν ἐν τοῖς πρόσω στεφανιαίαν . . . τὴν δὲ ὀπισθεν λαβδοειδῆ. . . .

- 58 Galen, *Oss. Tir.*, 1, ed. Kühn (1821) II.740.18–741.4 = ed. Garofalo and Debru (2005) 46.10–15: . . . αἱ δὲ τοῦ φοξοῦ κατὰ τάδε διάκεινται. τῆς μὲν ὀπισθεν ἀπολλυμένης ἐξοχῆς . . . τῆς δ' ἔμπροσθεν . . . ἀμφοτέρων δ' ἀπολλυμένων τῶν ἐξοχῶν. . . . On the sutures in the pointed head, see also, e.g., Galen, *UP*, 9.17, ed. Kühn (1822) III.752.11–755.10 = ed. Helmreich (1909) II.50.23–52.25.

- 59 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 53.12.
- 60 Galen, *Oss. Tir.*, 1, ed. Kühn (1821) II.740.18–741.3 = ed. Garofalo and Debru (2005) 46.11–15.
- 61 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 53.12–13.
- 62 On this, see also briefly Ieraci Bio (2005: 38–9).
- 63 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 53.13–17: Καὶ ταῦτα μὲν ἐπὶ τῶν ἄρρένων· τὸ δὲ θῆλυ, μίαν ἔχει καὶ μόνην ῥαφὴν κυκλοτερῶς περιανομένην, καὶ περιγράφουσιν τὸ κρανίον· ἐκ τούτου γὰρ τοῦ σημείου ἐν τοῖς τάφοις τὰ τῶν ἀνδρῶν καὶ γυναικῶν διακρίνεται κρανία.
- 64 Aristotle, *HA*, ed. Louis (1964–9) 491b2–4: ἔχει δὲ ῥαφὰς τῶν μὲν γυναικῶν μίαν κύκλῳ, τῶν δ' ἀνδρῶν τρεῖς εἰς ἓν συναπτούσας ὡς ἐπὶ τὸ πολὺ. The translations of Aristotle are from Barnes (1995⁶). See also Aristotle, *HA*, ed. Louis (1964–9) 516a17–19: . . . ὥσπερ ἄνθρωπος, καὶ τούτου τὸ μὲν θῆλυ κύκλῳ ἔχει τὴν ῥαφὴν, τὸ δ' ἄρρεν τρεῖς ῥαφὰς ἄνωθεν συναπτούσας, τριγωνοειδεῖς.
- 65 Cf. Aristotle, *PA*, ed. Louis (1956) 652a24–653b8. See, e.g., Mayhew (2004: 70–5).
- 66 See, e.g., of course, the (Galenic) passages from Oribasios mentioned above (n. 53); and Theophilus Protospatharios, *On the Constitution of Man*, 4.3, ed. Grimm-Stadelmann (2008) 165.1–27.
- 67 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 53.18–27:
- Εἴρηται δὲ τισὶ τῶν πατέρων, ὅτι αἱ τρεῖς ῥαφαὶ τῆς κεφαλῆς τοῦ ἄρρενος τὴν τρισυπόστατον δηλοῦσι θεότητα, Πατὴρ· Υἱοῦ· καὶ Ἁγίου Πνεύματος· ὑφ' ὧν, ἐνσυμφυῖα καὶ ταυτοβουλία διεπλάσθη, καὶ πρὸς τὰ ἄνω βλέπειν κατεσκευάσθη· τὸ δὲ πρὸς ἓν συνάπτεσθαι πάλιν τὰς τρεῖς, τὴν οὐσιώδη καὶ φυσικὴν ἐνότητα, καὶ τὸ ἐν κράτος ἐξεικονίζει τῆς μιᾶς κυριότητος· ἡ δὲ ἐπὶ τῆς κεφαλῆς τοῦ θήλεος μία ῥαφὴ κυκλική, τὴν περιεκτικὴν καὶ συνεκτικὴν τοῦ παντὸς κυκλοτεροῦς κόσμου μοναδικὴν δεσποτείαν· καὶ τῆς μιᾶς καὶ θεοπρεποῦς δυνάμεως ἀπειρίαν συμβολικῶς παρεμφαίνει καὶ παραδείκνυσι.
- 68 See, e.g., Montanari (1996).
- 69 Aristophanes the Grammarian, *Historiae animalium epitome*, 2.8, ed. Lambros (1885) 36.29–37.3: . . . ἔχει δὲ ὁ μὲν ἄρρεν ἐπὶ τοῦ κρανίου ῥαφὰς τρεῖς συναπτούσας ἀλλήλαις, τριγωνοειδεῖς, ἡ δὲ θήλεια κύκλῳ μόνον τοῦ κρανίου τὴν ῥαφὴν, ᾧ καὶ γινώσκεται τὸ θῆλυ. Cf. Arist., *HA*, ed. Louis (1956) 516a17–19.
- 70 Michael Glycas, *Annales*, ed. Bekker (1836) 219.8–11: ῥαφὰς πλείους ὁ ἄνθρωπος κέκτηται, καὶ μᾶλλον ὁ ἀνὴρ. τίνος ἕνεκεν; ὅτι καὶ πλείων ὁ ἐγκέφαλος αὐτῷ πρόσεστιν· ἵνα γοῦν ἔμπρους ὁ τόπος ᾗ, πλειόνων ὁ ἀνὴρ ἐδεήθη ῥαφῶν.
- 71 Cf. above, p. 161. Aristotle is referred to by name a few lines above the quoted passage in Michael Glycas, *Annales*, ed. Bekker (1836) 219.3.
- 72 The first centuries of the Christian Church were characterised by a heated discussion about the exact status and meaning of the Holy Trinity. Meletios's terminology may reflect (the outcome of) this debate, in which an author like Gregory of Nazianzus “managed to protect the unity of the Trinity (one God, indivisible) and the distinction of Father, Son and Spirit within the Godhead (three Persons, unconfused), by basing distinction among the persons of the Trinity upon their relationships to each another, rather than upon any essential difference between them” (Steward 2011: 75). See also, e.g., Bailleux (1970); Uthemann (1991a) and (1991b).
- 73 Leo the Physician, *Epitome on the Nature of Men*, 27, ed. Renahan (1969) 26.21–5:
- Ἔχει δὲ ἡ κεφαλὴ σχήματα δύο, τό τε κατὰ φύσιν καὶ τὸ φοξόν· τὸ κατὰ φύσιν ἔχει τρεῖς ἐν ἑαυτῷ ῥαφὰς, τὴν κατὰ τὸ μῆκος εὐθεΐαν, τὴν ὀπισθεν λαμβδοειδῆ καὶ τὴν ἔμπροσθεν στεφανιαίαν· καὶ ἑτέρας δύο λεπιδοειδεῖς. τὸ δὲ φοξὸν ἀπόλλυσι τὴν λαμβδοειδῆ. τὸ δὲ θῆλυ μίαν ἔχει ῥαφὴν κυκλοτέρως ἀνειμένην.

- 74 Galen, *Oss. Tir.*, 1, ed. Kühn (1821) II.741.11–742.1 = ed. Garofalo and Debru (2005) 47.3–13:

καὶ μὲν δὴ καὶ δύο ἕτεραι τῇδε παράλληλοι γραμμαὶ κατὰ τὸ μῆκος εἰσι τῆς κεφαλῆς, ὅπισθεν πρόσω φερόμεναι τῶν ὠτῶν ὑπεράνω . . . κατὰ βραχὺ γὰρ ἀπολεπτυνόμενον εἰς λεπίδα τὸ κατιὸν ἀπὸ τοῦ βρέγματος ὁστοῦν ὑποβέβληται τῷ κάτωθεν ἀπὸ τῶν ὠτῶν ἀνιόντι. καὶ διὰ τοῦτό τινες οὐδὲ ῥαφὰς ὠνόμασαν ἀπλῶς αὐτάς, ἀλλ' ἦτοι λεπιδοειδεῖς ῥαφὰς, ἢ λεπιδοειδῆ προσκολλήματα.

English translation (slightly changed) by Goss and Chodkowski (1984: 63). Other instances are, e.g., Galen, *UP*, 9.18, ed. Kühn (1822) III.755.11–756.4 = ed. Helmreich (1909) II.52.26–53.10; Oribasios, *Coll. Med.*, 25.3, ed. Raeder (1931) II.52.24–31; and Rufus, *On Bones*, 3–4, ed. Daremberg and Ruelle (1879) 186.6–187.3.

- 75 Leo the Physician, *Epitome on the Nature of Men*, 29, ed. Renehan (1969) 28.3: Τῆς κεφαλῆς εἰσιν ἕξ ὅστ'· τὰ λεπιδοειδῆ δύο. Cf. Meletios, *On the Constitution of Man*, ed. Cramer (1836) 54.22–3. See also, e.g., Galen, *Oss. Tir.*, 1, ed. Kühn (1821) II.745.7–9 = ed. Garofalo and Debru (2005) 50.13–16: Ἐκάτερον δὲ τῶν λοιπῶν τῶν κατὰ τὰ ὦτα πολυειδὲς ὑπάρχει. τὸ μὲν γάρ τι μέρος αὐτῶν ὀνομάζεται λιθοειδὲς, ὥσπερ οὖν καὶ ἔστιν (“Each of the remaining bones, viz. those at the ears [temporal bones], is polymorphous, for part of it is named stonelike, which indeed it is”); English translation, slightly changed, by Goss and Chodkowski (1984: 64).

- 76 Leo the Physician, *Epitome on the Nature of Men*, 29, ed. Renehan (1969) 28.3–4.

- 77 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 53.9–12.

- 78 Leo the Physician, *Epitome on the Nature of Men*, 27, ed. Renehan (1969) 26.24.

- 79 Krumbacher (1970²: 613–20), for example, does not even mention Leo's *Epitome on the Nature of Men* in his overview of Byzantine medicine. Similarly Hunger (1978: 305) simply states that Leo's *Epitome on the Nature of Men* (Σύνοψις εἰς τὴν φύσιν τῶν ἀνθρώπων) is a collection of excerpts from Meletios and that the only manuscript witness, viz. *Escorolianensis* Φ.III.7, presents a text full of grammatical errors, which can be corrected by comparing it to Meletios's text (“Ferner exzerpierte Leon den Meletios unter dem Titel Σύνοψις εἰς τὴν φύσιν τῶν ἀνθρώπων. Der Text weist in der einzigen bekannten Handschrift (Escor. Φ – III – 7) zahlreiche grammatische Fehler und Ungereimtheiten auf, die mit Hilfe des Meletios-Textes geklärt werden können”).

- 80 Cf. above, p. 154–5.

- 81 Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 55.10–17:

Καὶ ὅρα ὧδε σοφίαν δημιουργοῦ, διατί μὴ διὰ μιᾶς μήνιγγος τὸν ἐγκέφαλον περιεφύλαξεν, ἀλλὰ διὰ δύο· καὶ τούτων ἐνηλλαγμένων ἔχουσιν τὴν οἰκείαν διάθεσιν· ἡ μὲν γάρ ἐστι παχεῖα, ἡ δὲ λεπτή· εἰ γὰρ μὴ οὕτως αὐτὸν ἐν ταύταις ἐνείλησέ τε καὶ περιέσφιγξε, καὶ οἶον διεσπαργάνωσεν, ἔμελλεν ἀνιᾶσθαι ὑπὸ τῆς τοῦ ὁστοῦ προσψαύσεως, τραχυτέρου ὄντος καὶ σκληροτέρου· διὰ τοῦτο μεταξὺ τοῦ ὁστοῦ καὶ τοῦ ἐγκεφάλου τὴν λεπτὴν ἔθηκε μήνιγγα.

- 82 Galen, *UP*, 8.9, ed. Kühn (1822) III.659.7–660.9 = ed. Helmreich (1907) I.478.9–479.3:

εἴπερ μὴ μέσῃν ἢ φύσιν ἐτετάχει τὴν λεπτὴν, οὐκ ἂν ἄλυπος ἢ πρὸς τὴν παχεῖαν μήνιγγα ἐγκεφάλῳ γειννίασις ὑπῆρχεν. ὥσπερ οὖν ὁ Πλάτων γῆς καὶ πυρός, ἐπειδὴ πόρρω τὴν φύσιν ἀλλήλων ἦστην, ὕδωρ τε καὶ ἀέρα μεταξὺ θεῖναι φησι τὸν θεόν, οὕτω καὶ γὰρ φαίην ἂν ἐγκεφάλου τε καὶ κρανίου, πόρρω ταῖς οὐσίαις διεστηκότων, ἐν τῷ μεταξὺ θεῖναι τὴν φύσιν ἀμφοτέρας τὰς μήνιγγας . . . ὥστ' εἰ μὲν τὴν λεπτὴν μόνην ἢ φύσιν ἐδημιούργησεν, οὐκ ἂν ἦν ἀζήμιος ἢ πρὸς τὸ κρανίον αὐτῆς ὁμιλία· εἰ δέ γε τὴν σκληράν, αὐτὸς ἂν οὕτως ὁ ἐγκέφαλος ἐπόνει.

The English translation is by May (1968: 410–1).

- 83 Leo the Physician, *Epitome on the Nature of Men*, 30, ed. Renehan (1969) 28.10–11: Δύο δὲ ὑμένες φυλάσσουσι τὸν ἐγκέφαλον, παχεῖα καὶ λεπτή, διὰ τὸ μὴ ἀνιᾶσθαι τὸν ἐγκέφαλον ὑπὸ τῆς τοῦ ὀστοῦ προσψαύσεως.
- 84 Cf. Meletios, *On the Constitution of Man*, 1, ed. Cramer (1836) 55.24–56.4.
- 85 Leo the Physician, *Epitome on the Nature of Men*, 30, ed. Renehan (1969) 28.12–13: ὁμιλεῖ δὲ ἡ παχεῖα τῷ ὀστῷ, ἡ δὲ λεπτή τῷ ἐγκεφάλῳ ὁμοίως τῇ ῥοιᾷ ἔσωθεν καὶ ἔξωθεν.
- 86 For this expression, see van der Eijk (2010: 529).
- 87 Cf. Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 1.15–26.
- 88 Cf. Meletios, *On the Constitution of Man*, pr., ed. Cramer (1836) 1.8–11: . . . οὐχ ὥς καινόν τι ἐπινοήσαντος περὶ φύσεως ἀνθρώπου φυσιολογῆσαι, ἀλλὰ σύντομον καὶ ἀνελλιπῇ πραγματείαν ἐκθέσθαι τοῖς φιλομαθέσι καὶ φιλοπόνοις βουλομένου.
- 89 See Zipser (2005: 113): “Es liegt nun nahe, den Sitz dieses Textes [i.e., Leo the Physician, *Epitome of Medicine*] im Leben in einem Bereich zu vermute, der in einer größeren Stadt anzusiedeln ist, und zwar im einem Bereich, in dem mehrere Ärzte zusammenarbeiteten oder zumindest Kontakt zueinander hatten. Hier bietet es sich besonders an, die Benutzer des Textes im Umfeld eines Krakenhauses zu sehen”. On Byzantine hospitals and their debatable role in medical education, see, e.g., Miller (1997: 156–9); Nutton (1986: 220); Horden (2007: 227–30); and Miller (2008: 626–7).
- 90 I.e., *Scorialensis* 226 (Φ.III.7); see Renehan (1969: 9–11) and Ieraci Bio (2006: 801).
- 91 Cf. above, p. 154.

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9 Reading Galen in Byzantium

The fate of *Therapeutics to Glaucōn**

Petros Bouras-Vallianatos

Τῷ Γερασίμῳ

Introduction

Much of what we possess of Greek literature nowadays we owe to the Byzantines, who were keen readers of ancient works and avid collectors of manuscripts, thus ensuring their transmission.¹ However, over and above the significant contribution to the preservation of Greek treatises by Byzantine readers, we often underestimate the intellectual activity of Byzantine authors reflected in their creative transformation of ancient texts, and thus simply label them mere compilers or mediators of the ancient legacy.² As Hans Robert Jauss has so nicely illustrated, a text is a living entity not just in the original context in which it was produced, but in any cultural environment where it is revived, and provokes different responses from its various readers in each period.³ It would be seriously deluded to think that we can somehow recreate the original responses of Byzantine readers, but we can get an idea of the readers' perspective by examining, for example, the role of Byzantine authors as users and interpreters of ancient texts. Such an examination will not only emphasise the various ways that ancient texts influenced and facilitated the needs of Byzantine readers, but it will also provide us with a better understanding of the various versions and forms in which a given ancient text became available in Byzantium.

In this chapter, I shall focus on the Galenic corpus, whose dissemination in the Byzantine world was widespread and influential; in particular, I have chosen to examine the various revivals of Galen's *Therapeutics to Glaucōn*, which was copied widely. A number of authors produced commentaries based on this treatise and some were invariably influenced by it in composing their own works throughout the Byzantine era (AD 330–1453).⁴ My study is not exhaustive, but rather I shall select specific examples of interest from the various forms of evidence. First, I shall provide some basic introductory details on Galen's *Therapeutics to Glaucōn*, followed by a section on its circulation and textual transmission in Byzantium. Then, I shall go on to discuss its revival by Byzantine medical authors into two further sections; the first focuses on commentaries and the second deals with medical handbooks.

Galen's treatise and its target audience

Galen's *Therapeutics to Glaucōn* (Τῶν πρὸς Γλαύκωνα θεραπευτικῶν βιβλία β') is a treatise in two books written at some point between AD 170 and 174.⁵

It was addressed to Glaucón, who seems to have been a contemporary philosopher and Galen's friend. In his *On Affected Parts* Galen provides a long case history in which he refers to a certain Glaucón, who is most probably to be identified with the addressee of the aforementioned treatise.⁶ According to Galen's account, Glaucón encountered him on the streets, not long after Galen first arrived in Rome (AD 162–165/6), and urged him to visit and examine his sick friend, a Sicilian doctor. For, according to Galen, Glaucón – in introducing the patient's condition to him – said:

... I wanted to find out for myself, not in regard to you personally, but as to whether medical science is able to make a diagnosis and prognosis in such a case.⁷

We have it on Galen's own authority in this particular anecdote that Glaucón was a philosopher (Γλαύκωνος τοῦ φιλοσόφου), yet he seemed interested in medicine, in particular in the ability of a physician to make accurate diagnoses and prognoses. But it is clear that he was not a professional physician at the time. At the end of the account, Glaucón appears amazed by Galen's outstanding ability to diagnose very quickly and without any prior knowledge of the patient's condition that the Sicilian was suffering from inflammation of the liver.

Later on, Glaucón particularly requested Galen to write a special method of treatment, i.e. *Therapeutics to Glaucón*, for him.⁸ Right from the very beginning of his work, Galen is eager to show Glaucón's strong association with philosophy once more by saying to him:

For truly it would be laughable if I were to teach you your own business, as if you had not learned these things from Plato long ago.⁹

Meanwhile, from various references in the text, we can deduce that Glaucón had already read Galenic texts on anatomy (*On Anatomical Procedures*) and drugs (*On the Capacities of Simple Drugs*) and was expected to become familiar with Galenic treatises on pulses and the *On Mixtures*;¹⁰ furthermore, he seemed to know how to prepare certain medicaments.¹¹ Additional evidence shows that Glaucón was familiar with Galen's recommendation on the treatment of cancerous swellings,¹² and was probably expected to be able to perform phlebotomy and scarification.¹³ We are also informed that he used to accompany Galen, as, for example, when the latter was treating a patient with a small fistula.¹⁴ In the epilogue of his work, Galen confirms that Glaucón would take his book on a journey on which he was soon to depart in case he encountered any medical problems.¹⁵ Byzantine physicians, such as Oribasios and John Zacharias Aktouarios also wrote medical handbooks, *Synopsis for Eunapios* and the *Medical Epitome* respectively, to help travelling laymen, in case there was no physician available on their journey.¹⁶ Galen's claim that, thanks to his treatise, Glaucón would be able to tell why in certain cases a physician had come to erroneous conclusions is striking,¹⁷ and recalls Oribasios' account in which he presents his addressee, the "sophist" Eunapios, as being capable of judging a physician's opinion where there was a disagreement

(διαφωνία) between professionals.¹⁸ Moreover, the exclusion of invasive surgery from the treatment recommendations reinforces the impression that Galen’s addressee was not a professional medical man.¹⁹ Thus, Glaucon could be seen as a *philiatros* (amateur physician or friend of medicine),²⁰ a philosopher with a great interest in medicine rather than a professional physician.

On the other hand, it is notable that Galen ends his work with a promise to Glaucon that he would compose his *Therapeutic Method* and his two treatises on the composition of drugs,²¹ which he would give him on his return or would be willing to send him, should he prolong his trip.²² The *Therapeutic Method* was not a treatise for the layman or ordinary physician, but presupposed a substantial knowledge of medical theory and experience.²³ This, of course, emphasises Glaucon’s great interest in Galen’s writings on various medical disciplines, as has already been mentioned above, although we should not exclude the possibility that Glaucon might have started studies in medicine or been intending to undertake such a course of study soon. It should be noted that there is a lack of references to *Therapeutics to Glaucon* in other Galenic works, since all its contents are covered in more detail by other of his works.²⁴ The first book of *Therapeutics to Glaucon* deals with the diagnosis and treatment of fevers.²⁵ The second book focuses on the treatment of inflammations, tumours, and swellings.²⁶ In fact, as can be seen in Table 9.1 *Therapeutics to Glaucon* could be seen as a medical handbook that takes a synoptic form by comparison with Books 8–14 of Galen’s long masterpiece *Therapeutic Method*, which treats approximately the same topics in much more detail.

To sum up, there is no conclusive evidence confirming that Glaucon ever practised medicine. *Therapeutics to Glaucon* is a work designed to allow its readers to access practical information on the diagnosis and treatment of various kinds of fevers and inflammations easily. It was presumably intended for well-educated people, who possessed a keen interest in medicine; it could perhaps also be useful

Table 9.1 Contents of Galen’s *Therapeutics to Glaucon* and their correspondence with particular sections of the *Therapeutic Method*

<i>Therapeutics to Glaucon</i> , ed. Kühn (1826) XI.1–146	<i>Therapeutic Method</i> , 8–14, ed. Kühn (1825) X.530–1021
Book 1: Chapter 1, general principles; Chapters 2–16, diagnosis and treatment of ephemeral, tertian, quartan, quotidian, and continuous fevers and associated symptoms.	Books 8–12
Book 2: Chapters 1–4, diagnosis of different kinds of inflammation and their treatment, including also <i>erysipelas</i> , <i>herpēs</i> , and <i>anthrax</i> .	Book 13
Book 2: Chapters 5–13, treatment of oedema, scirrhus swellings, scirrhus in the spleen and liver, tumours, abscesses, fistulae, gangrenous inflammations, cancerous tumours, and elephant disease.	Book 14

for medical novices who had already been initiated into the basic theoretical principles of the art and wanted to acquire knowledge on the above mentioned topics.²⁷ And we should not preclude its possible use as a brief *vade mecum* by travelling physicians too.

Textual transmission and dissemination in Byzantium

Modern scholars are often preoccupied with the interpretation of certain passages in particular ancient works. If a critical edition is available, scholars can benefit from the *apparatus criticus*, which documents the various readings in the manuscripts. In the case of Galenic works, in particular, the editor often has to consider the indirect tradition, and perhaps their medieval translations into other languages, such as Latin, Syriac, Arabic, and Hebrew. And this can be particularly useful not only in helping an editor choose a particular reading but also in completing parts of a text which survive in a fragmentary version in Greek.²⁸ However, we should bear in mind that a critical edition involves the editor attempting to restore the text to a state that is as closely as possible to its original or archetypal text, and how successful s/he is in this depends on a variety of factors, including the editor's skills and familiarity with the author as well as the quality of the witnesses.²⁹ The latter is very important for our study, since unlike modern publishing, in which a printed text has exactly the same format in all copies of the book, a Byzantine reader could encounter a Galenic work in a variety of versions and layouts.

The *Therapeutics to Glaucon* or excerpts of it survive in approximately thirty Greek manuscripts.³⁰ The vast majority of the manuscripts date between the thirteenth and the sixteenth centuries, although there are a few earlier witnesses, the earliest ones being dated to the tenth century, i.e. Parisinus suppl. gr. 446 and Vaticanus gr. 2254.³¹ In the absence of a critical edition, we are fortunate to have a brief study by Serena Buzzi of the text in Parisinus suppl. gr. 446 (= **P**),³² which is collated with the early nineteenth-century edition by Carl Gottlob Kühn. Since Kühn's edition does not provide variant readings and we often cannot be certain whether particular readings are based on manuscripts, earlier editions or an editorial intervention,³³ I have collated specific passages of the first book in three witnesses, namely **P**, Laurentianus Plut. 75.9 (= **F**), and Beinecke MS 1121 (= **Y**), which allows us to draw interesting conclusions about the versions of the text that might have been available in Byzantium.³⁴ **P** is a parchment manuscript consisting of a collection of medical texts by Galen, Hippocrates, and Byzantine authors such as Paul of Aegina and Leo the Physician.³⁵ There are a couple of folia missing from the beginning of the manuscript, while several folia are in such poor condition that they often preserve only a fragmentary version of the text. In fact, this damage must have happened at quite a late date and been caused by external factors related to its conservation and thus these losses are not associated with the actual production of the manuscript. However, there are often excerpted Byzantine manuscripts in which the scribe intentionally copied only a certain part of the work, as for example in Parisinus suppl. gr. 634 (= **Q**),

most probably dating to the twelfth century, which contains only the second book of the Galenic treatise.³⁶ Thus, a complete version of a given text might not always be as easily accessible to Byzantine readers as one might think. On the other hand, **Y** and **F**, twelfth- and fifteenth-century manuscripts respectively, contain the Galenic treatise in its entirety in combination with other Galenic works (**Y**) and the medical corpus of the late Byzantine physician John Zacharias Aktouarios (**F**).³⁷

I shall present two examples, which correspond to two common reasons for which a variant reading may be found among the various witnesses of a text. Firstly, we can very often encounter the transposition of words or small phrases, which in most cases do not result in any significant difference in meaning. As we can see, **P** and **F** are in agreement but differ from **Y**:

P (f. 1r)

. . . τὰ τῶν κατακλίσεων τε καὶ τὰ τῆς [ἀναπνο]ῆς καὶ ὅσα κάτω τε καὶ ἄνω κενοῦτ[αι]

F (f. 177r)

. . . τὰ τῶν κατακλίσεων τε καὶ τῆς ἀναπνοῆς· καὶ ὅσα κάτω τε καὶ ἄνω κενοῦται·

. . . the [signs drawn] from the way the patient lies and from respiration and from those things that are expelled from downward and upward.

Y (f. 108v)

. . . τὰ τῶν κατακλίσεων τε· καὶ τὰ τῆς ἀναπνοῆς· καὶ ὅσα ἄνω καὶ κάτω κενοῦνται·

. . . the [signs drawn] from the way the patient lies and from respiration and from those things that are expelled from upward and downward.³⁸

If we look more closely, we can see that **F**, unlike **P** and **Y**, omits the article *τά*, which again, although it provides a variant reading, does not affect the reader's understanding of the text. However, our second example shows that sometimes a large, and occasionally significant, part of the text can be omitted in certain witnesses, in this case in **P**:

P (f. 4r)

. . . κατὰ τὴν πρώτην ἡμέραν ἀλλὰ τὴν δευτέραν γὰρ πειραταῖον ἐξευρεῖν τὴν ἰδέαν τοῦ πυρετοῦ·

. . . [if possible make] a diagnosis on the first day, otherwise you must attempt to discover the kind of fever on the second day.

Y (f. 111r)

. . . κατὰ τὴν πρώτην ἡμέραν διαγνωστέον εἰ οἷος γέ τις ἐστὶν ὁ πυρετὸς· ἄρα γε χρόνιος ἢ ὀξύς· καὶ πότερον τῶν διαλειπόντων καλουμένων ἢ τῶν συνεχῶν· εἰ δὲ μὴ οἷόν τε περὶ τὴν πρώτην ἡμέραν· ἀλλὰ τὴν δευτέραν πειρατέον ἐξευρίσκειν τὴν ἰδέαν τοῦ πυρετοῦ·

F (f. 180v)

. . . κατὰ τὴν πρώτην ἡμέραν διαγνωστέον οἷός γε τις ἐστὶν ὁ πυρετὸς· ἄρα γε χρόνιος ἢ ὀξύς· καὶ πότερον τῶν διαλιπόντων καλουμένων ἢ τῶν συνεχῶν· εἰ δὲ μὴ οἷόν τε περὶ τὴν πρώτην ἡμέραν, ἀλλὰ τὴν δευτέραν, πειρατέον ἐξευρεῖν τὴν ἰδέαν τοῦ πυρετοῦ·

. . . [if possible make] a diagnosis on the first day as to what the fever is; whether it is chronic or acute and whether it is one of the so-called intermittent or one of the continuous fevers. If a diagnosis is not possible on the first day, you must attempt to discover the kind of fever on the second day.³⁹

Having seen some cases which help us better understand the role of scribes in the transmission and dissemination of the *Therapeutics to Glaucon*, it should be noted that variant readings in Byzantine manuscripts may sometimes result from the scribes' efforts to consult more than one surviving manuscript or to make their own contributions to improve the text, much like a modern editor. We should also bear in mind that Byzantine copyists were not themselves native speakers of Attic Greek.⁴⁰

What is even more striking is the impression the reader can get from the mise en page or folio layout when consulting a particular manuscript.⁴¹ In the case of *Therapeutics to Glaucon*,⁴² we can identify at least three different ways of arranging the text:

- a) The text is contained within the central area outlined by the rulings with occasional brief marginal annotations.
- b) The text occupies the central part of the folio; extensive scholia occupy the margins.
- c) Longer or shorter extracts from the text (lemmata) alternate with a systematic commentary in the central space and are supplemented by occasional brief marginal annotations.

Let us first concentrate on some examples of the first category in which the text is transmitted in the central area without any associated commentary or substantial parts of the text in the margins. There are, however, sometimes marginal notes, made either by the scribe or by later hands, which are designed to facilitate the reader's consultation of the Galenic text. They can for the most part be divided into two groups. First, there are some *notabilia*, single words or brief phrases intended to highlight a particular passage of the work. For example, in **P** (see Figure 9.1, f. 11v) we often see an abbreviation of the second-person singular aorist imperative ση(μείωσαι), which is a very commonly used injunction in Greek manuscripts as an emphatic indicator that could be translated "note well" or "take notice" and denotes a particular place of interest in the text.⁴³ It may sometimes be followed by another word or a brief phrase referring to the particular contents of the passage in question, as in **Y** (see Figure 9.2, f. 117v), where there is the following reference to therapeutic methods:

Ση(μείωσαι) πε(ρὶ) φλεβοτομί(ας)
Note well [this section] on phlebotomy

Similarly, in **Y** (see Figure 9.3, f. 117r) and less often in **F** (see Figure 9.4, f. 175r) chapter titles usually appear in the margins, whereas in **P** they are inserted in majuscule in the central area otherwise reserved for the text (see Figure 9.1).⁴⁴ This is a common feature of Byzantine medical manuscripts, and what is remarkable is that there are considerable discrepancies in the length of chapters and in chapter titles among the manuscripts of a single work, indicative of the constant intervention of scribes and readers in the transmission of the treatise. It is notable that modern editors of Galen do not in most cases provide chapter titles in their editions, considering them later additions to the text.

The second group in this format includes annotations concerning additions or corrections to the text, which in the majority of cases appear in the margins, either simply set beside a particular part of the text or cross-referenced with it by symbols, such as a cross or an asterisk. For example, in **P** (see Figure 9.1), the scribe uses a cross in the main body of the text above the word αἱμορραγία (= haemorrhage) to cross-reference ἐρωγύα, a misspelling in the margin of ἐρρωγυῖα (= rupture [of veins]).⁴⁵ This is most probably the correct term, since it is retained in this particular passage in **F**, **Y**, and Kühn's edition in preference to αἱμορραγία, which is closely related in meaning and used in the text some sentences above and below.⁴⁶ Having checked the accuracy of his copy against his model, the scribe discovered the erroneous reading, which could only be indicated as a correction in the margin, it being too late for a major intervention in the main body of the text. Sometimes, these kinds of emendations can also be found above the line (*supra lineam*).

The next two categories of layout involve the existence of a commentary on the text. The texts themselves and their contents will be discussed in the next section, but I shall focus here on the modes of presentation of the Galenic work in association with its commentaries. In the case of **Q** (see Figure 9.5, f. 39v), the text (ff. 39r–64r) is surrounded by an anonymous collection of scholia on parts of the second book of the *Therapeutics to Glaucón*, written in the margins in the same hand as the main body of the text. The scholia occupy the upper, lower and outer margins of the first few folia (ff. 39r–40v) but become less extensive in the next part of the text (ff. 41r–v, 42r–v, 43v, 44r, 45r, 46r–v, 48v, 49r–v, 58v), where they are usually limited to the upper or outer margins. There is no commentary on the remaining folia.⁴⁷ It is notable that in this case the scribe does not use any particular symbols to connect parts of the text with particular scholia, and sometimes, there is no obvious correlation between the text and the commentary, although in some cases scholia are prefaced by a gloss containing a brief phrase or term referring back to the main text. Perhaps, the scholia were written independently in several stages and only later compiled and added into the margins of **Q**.⁴⁸ Interestingly, the lower margin (on ff. 41r–v, 42v–45v, 48v, 50r–57v, 58v–64r) often transmits parts of another Byzantine medical text, i.e. Theophanes Chrysobalantes' *Medical Epitome*, which is copied on several folia throughout the codex by a later hand and has nothing to do with the *Therapeutics to Glaucón* (see Figure 9.6, f. 48v).⁴⁹ In this respect it is important to emphasise the high cost of writing materials,⁵⁰ which often forced manuscript owners to use any available space in an

existing codex to copy other texts of their choice, in this case a medical text with brief, easily consulted medical advice intended for daily practice.

On the other hand, the late fifteenth-century Marcianus gr. App. cl. V/4 (coll. 544) (= **M**) written on parchment, contains Stephen's (*fl.* late sixth/early seventh century) lemmatic commentary on the first book of the treatise on ff. 125v–157v,⁵¹ in which long and short passages from the first book of the Galenic text alternate with commentary in the central part of the folio (see Figure 9.7, f. 133v). The manuscript contains a large collection of Galenic treatises, and the commentary on the first book is followed by the second book of the *Therapeutics to Glaucon* on ff. 157v–167r. Unfortunately, there is no surviving manuscript of the commentary dated to the Byzantine period, but presumably earlier Byzantine witnesses of the text were copied; it is important to emphasise that Stephen commented on the entire first book, and thus, the surviving manuscripts of the commentary are also considered witnesses of the Galenic text itself.⁵² The margins of **M** are generally left intentionally free of text, with the exception of some marginalia, which can be classified into two main groups as discussed above. First, we can, for example, see use of the term ἀπορία (= difficulty) and λύσις (= solution) to designate the effective explanation of a difficult passage on f. 130r.⁵³ In the second group we can include brief additions to the text by the scribe, such as on f. 127r.

Both layouts have their advantages and disadvantages.⁵⁴ In the case of **Q** both the main text and the commentary in the margins run continuously allowing the reader to read the Galenic treatise without necessarily consulting the commentary, unlike in **M**, in which the commentary alternates with the Galenic text in the central area in blocks of various sizes. Stephen's work was not written to be read on its own but rather in conjunction with the Galenic work, which shows the commentator making more of an effort to urge his reader to approach the Galenic text from his perspective, a technique also used by Galen in his own commentaries on Hippocratic treatises.⁵⁵ In similar vein, one might argue that the presence of scholia in the margins give the reader a sense of completeness, encouraging him to think that everything he needs in order to understand the text is there. In both cases the reader immediately notices the co-existence of two different textual entities. The different forms of layout serve as visual aids, directing the readers' eyes to the authoritative role of the commentator and his engagement with the Galenic text.

A last, noteworthy example of the various visual aids deployed in manuscripts to help the reader contextualise a text in Byzantium – and one which deserves special mention – is that of the branch diagrams in the form of divisions (*diairesis*) related to *Therapeutics to Glaucon* (ff. 337r–338v; see Figure 9.8, f. 338r). They are part of a large collection of such diagrams on various Galenic works in the late Byzantine codex Vindobonensis med. gr. 16 (= **V**) (ff. 329r–359v), a manuscript dated to the thirteenth century.⁵⁶ As we will see below, these diagrams seem to correspond to Stephen's commentary and were perhaps constructed as companion pieces for the reader in the form of paratextual elements rather than textual entities in their own right. For example, in late Byzantine medical manuscripts, we can see branch diagrams focusing on a particular theoretical aspect,

such as the one in Figure 9.9 (Wellcome MS.MSL.52, f. 146r), which shows the four qualities and accompanies John Zacharias Aktouarios' corresponding chapter on the subject in the majority of the manuscripts. The current version of V does not contain the original text by Galen, but certain labels point out to particular contents of both the text and presumably the commentary. In fact, this kind of retention aims to increase the reader's ability to get involved with fundamental principles of the text, diagnostic and therapeutic, and enhance his/her memory.

Thus, an examination of some fundamental aspects of the transmission of the Galenic text and the various layouts used in medieval manuscripts shows the great importance placed on the format and presentation of the text by Byzantine scribes and authors, who used various motivational strategies to influence the reader's approach to it. In the next section, we shall see in more detail how *Therapeutics to Glaucon* was adopted in an educational context.

Medical education and Byzantine commentaries

By the early sixth century we can ascertain the existence of a syllabus for the teaching of medicine in Alexandria.⁵⁷ It is worth noting that recent excavations at the Kom el-Dikka site in Alexandria have uncovered lecture halls dated to the sixth century, which might have served as auditoria for those studying there.⁵⁸ Students followed a medical curriculum consisting of Hippocratic and Galenic texts. In particular, as regards the Galenic canon, of the so-called sixteen books, three versions survive in Arabic.⁵⁹ The various works were arranged in order of specialisation starting from works intended to give beginners the essential theoretical background, such as *On Sects for Beginners*, and the *Art of Medicine*, followed by specialised treatises on anatomy, diagnosis, and therapy. In all three versions, *Therapeutics to Glaucon* was included among the introductory treatises, which could be explained by its elementary orientation and concise nature discussed above. Alexandrian scholars wrote summaries,⁶⁰ commentaries, and composed branch diagrams on these Galenic works to facilitate their students' learning experience.⁶¹

In this section, I will deal with the extant commentary on the text by Stephen and the corresponding branch diagrams. I will also include in my discussion a collection of scholia, which might not necessarily be connected with the study of the Galenic treatise in Alexandria, but was intended to offer supplementary information to help the reader understand the text better. Before that, however, it is important to mention that apart from the surviving Greek commentary by Stephen, there is an extant anonymous Latin commentary on the first book of the *Therapeutics to Glaucon* and a summary of the entire Galenic treatise in Arabic. The Latin commentary is transmitted in the same manuscript, i.e. Ambrosianus G 108 inf. (second half of the ninth century), along with the commentaries *On the Sects for Beginners*, *Art of Medicine*, and *On the Pulse for Beginners* by the so-called Agnellus; the commentaries which clearly serve a didactic purpose were most probably the product of scholars based in sixth-century Ravenna.⁶²

The Latin commentary shows similarities with the Greek commentary by Stephen, but according to Nicoletta Palmieri, the modern editor of the text, it is impossible to argue for a definite dependence and it is more likely that both commentaries derive from an earlier common tradition.⁶³ It is noteworthy that the Summary (Jawāmi‘) to the *Therapeutics to Glaucon* also shows a close affinity with Stephen’s commentary in Greek.⁶⁴

Stephen is the author of a surviving commentary on the first book of the *Therapeutics to Glaucon*.⁶⁵ He also wrote commentaries on the Hippocratic treatises *Aphorisms* and *Prognostic*.⁶⁶ We know very little about the author himself. He may have practised medicine, as he seems to be an expert on clinical issues and occasionally refers to patient visits.⁶⁷ We should not reject the possibility that Stephen is the same person as the homonymous early Byzantine author who wrote philosophical and astronomical commentaries, although this identification is highly controversial.⁶⁸ His medical commentaries show familiarity with the contemporary lectures and medical curriculum in Alexandria.⁶⁹ His *Commentary on Galen’s “Therapeutics to Glaucon”* is written for those in the first stages of their medical education.

The surviving version of the commentary does not follow the usual division into lectures (πράξεις), consisting of a general discussion (θεωρία) of the passage being interpreted and of remarks on the language and style (λέξεις), that was developed in Alexandria and it lacks a formal proem.⁷⁰ It starts with the Galenic lemma corresponding to the first couple of lines of the prologue, which is followed by Stephen’s comments. Throughout the commentary, there is an evident attempt by an experienced teacher (i.e. Stephen) to explain difficult or ambiguous passages to his beginner students in a more detailed and didactic way.⁷¹ Stephen’s awareness of the level of his readers can be seen, for example, in the reference to the role of bathing for those having fevers, where in an attempt to provide concise and easily comprehended advice, he states:

. . . here we shall be brief and recall only as much as [is] appropriate for beginners (εἰσαγομένους).⁷²

The educational objectives of this commentary are also evident from the regular use of verbs, such as “we have learned”⁷³ (ἐμάθομεν/μεμαθήκαμεν) and “we have said” (εἰρήκαμεν), with which Stephen reminds his contemporary intended readers of the content of past lectures.⁷⁴ Then again, the use of the first-person plural shows an attempt by the author to give his account a sense of inclusivity and actively engage his absent readers.⁷⁵ It is notable that Stephen never expresses any kind of criticism of the Galenic theories, although sometimes he is eager to state that Galen does not provide his readers with all the necessary details.⁷⁶ A specific example may help us to elucidate further Stephen’s role as a commentator. The passage starts by providing the Galenic lemma:

Certainly these signs are common in those who are otherwise anxious in any way whatsoever. It is especially necessary to draw distinctions on the

evidence of the eyes, even in those who are healthy. And in those who are ill they are the clearest signs, at least to one who is able to observe them accurately. This, then, is the appropriate way to distinguish someone anxious due to studies or some kind of intellectual activity from those who are grieving.⁷⁷

This is followed by Stephen's account:

Now he [i.e. Galen] has already distinguished grief from rage on the basis of the difference he mentioned, namely that of the urine and, for that matter, also on the basis of emaciation and the hollowness of the eyes and colourlessness. [But] these symptoms also occur in the case of people who brood. How, then, shall we distinguish them? Galen himself passed over this topic in silence, saying only that [we must] distinguish them by reference to the eyes, but not adding exactly how it is that we must distinguish them. As such, we ourselves should add that in the case of patients who grieve the eyes appear as it were fixed and immobile, whereas in the case of the brooding they are quite mobile and roll around. This is because the eyes announce to us the passions of the soul, since they are the gateways to the brain, in which the soul resides . . .⁷⁸

The reader, having read the Galenic passage, turns to look at Stephen's comments. Stephen first emphasises the incomplete status of Galen's account of how to identify signs connected with the diagnosis of ephemeral fever, then proceeds to complement his master's account with new information based on his own view. As a consequence, the reader is provided with handy, practical details which might help him if he faces a similar situation when practising medicine. Thus, Stephen's main role is to clarify and explain Galen's account, as he himself acknowledges when he says:

This passage [i.e. Galenic lemma] is not expressed clearly (ἀσαφῶς ἐρμηνεύεται⁷⁹), and so we ourselves shall clarify (σαφηνίσομεν) it.⁸⁰

Moreover, he is often quick to defend certain Galenic views by openly addressing those (τινες) who criticise Galen and highlighting the superiority of Galen's own discoveries compared to those of other ancient physicians.⁸¹ In this way, he guides his readers through the ancient medical knowledge by means of his own thought world.

Having had a glimpse of Stephen's intentions and his way of commenting on *Therapeutics to Glaucón*, I shall now turn to discussing two particular methods he often uses in his account, offering the reader a new perspective on how to approach and make use of the Galenic treatise. First, Stephen cross-references to other Galenic texts⁸² (such as *On Mixtures*, *On the Sects for Beginners*, *On Crises*, *Therapeutic Method*, *On the Differences among Fevers*, and *On Critical Days*) and Hippocratic ones (such as *Aphorisms*, *Prognostic*, *Epidemics*, and *On Nutriment*),⁸³ most of which were part of the teaching curriculum, as well as other

potentially useful statements from treatises by other authors, such as Aristotle's *On the Soul*.⁸⁴ The most interesting references are those to other medical works that were studied in Alexandria. For example:

Note here something that we also said in the *To Teuthras on the Pulse*, namely that the irregularity proper to fevers is that the limits of diastole are faster than the middle phases, and the outer limit faster than the inner.⁸⁵

Indeed, *To Teuthras on the Pulse* (also known as *On Pulse for Beginners*),⁸⁶ is a Galenic treatise written for those in their initial stages of their education and was studied in Alexandria before the *Therapeutics to Glaucon*. There are also examples in which Stephen prefers to cite the relevant passage from a work mentioned briefly, as in the case of Hippocratic *Aphorisms*:

Due to the motion and boiling of humour in irregular motion, sometimes moving from one part to another and sometimes settling around the stomach, such patients suffer malaise. This is exactly what Hippocrates says: "For patients nearing crisis, the night before the paroxysm is uncomfortable".⁸⁷ He also regards the nature of the day as a sign of the impending crisis . . .⁸⁸

This not only implies the use of Stephen's work as a companion to *Therapeutics to Glaucon* in an educational context, but also shows how contemporary teachers encouraged students to read certain parts of a text in combination with passages from other Hippocratic and/or Galenic works. *Therapeutics to Glaucon* is no longer an isolated work written for a *philiatros*, but part of a teaching corpus, in which a certain complementarity had been built up among the constituent items by contemporary teachers.

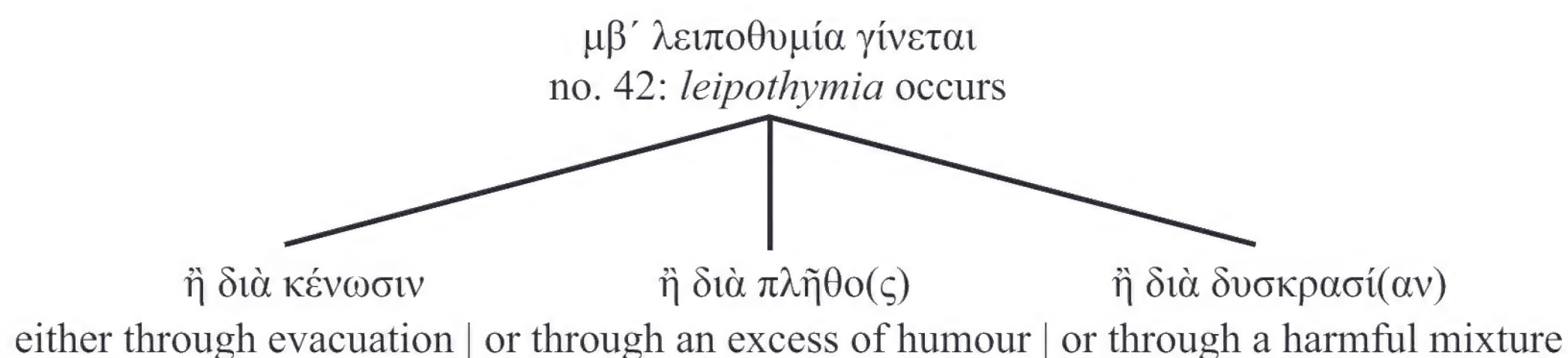
The next important element in Stephen's presentation of material is the use of the prominent contemporary notion of division (*diairesis*) in his account.⁸⁹ Let us focus on an example dealing with *leipothymia*.⁹⁰ The Galenic lemma (in italics) is followed by Stephen's commentary:

*For people swooning (λειποθυμοῦσι) in cases of cholera, diarrhoea, and dysentery.*⁹¹

Leipothymia (ἡ λειποθυμία) is nothing other than the sudden dispersal of vital tension. This happens (γίνεται δ' αὕτη) categorically in three ways, but specifically through a great number of causes. Now, it happens either when an excess of humour (διὰ πλῆθος) chokes the faculty with its weight; or through immoderate evacuation (διὰ κένωσιν), which makes beneficial matter slip along with the harmful matter; or else through a sudden change of mixture (δι' ἀθρόαν μεταβολὴν κράσεως) . . .⁹²

Stephen makes it clear that one should keep in mind three main reasons (underlined) for *leipothymia* in the above mentioned cases. The first division is then followed by several sub-divisions.⁹³ This functioned as a mnemonic device for

contemporary students and was widespread in various commentaries and summaries of Galen's Alexandrian canon.⁹⁴ This method seems to have inspired the creation of branch diagrams, providing a visualisation of the knowledge derived from the text in synoptic form. We have already referred to the branch diagrams in codex Vindobonensis med.gr. 16 in association with the first book of the *Therapeutics to Glaucón*, which consist of 65 divisions. Diagram no. 42 on f. 338r (see Figure 9.8) reads as follows:



The three causes listed in the diagram show an exact, almost word for word, correspondence with Stephen's commentary. In fact, other diagrams show further connections with Stephen's work and suggest that a good number of the ancestors of these diagrams may have originally been composed as supplements to the text.⁹⁵

I now turn to the marginal scholia on the second book of the *Therapeutics to Glaucón* preserved in Parisinus suppl. gr. 634. Ivan Garofalo, the editor of this collection of scholia, points out that the terminology found in the scholia has many similarities with the medical commentaries by sixth-/seventh-century scholars such as Stephen, Palladios, and John of Alexandria.⁹⁶ Furthermore, scholia on other Galenic treatises of this manuscript seem to provide connections with the works of the sixth-century scholars John Philoponos and Simplicios,⁹⁷ but there is no evidence to suggest a definite connection between our scholia and those of the other Galenic treatises.

As I have already mentioned above, there is no direct cross-referencing between the scholia and passages from the Galenic treatise by means of textual symbols. The scholia are often introduced by brief phrases or a single word from the *Therapeutics to Glaucón*, which serve as brief lemmata to the exegetical part of the scholion. The first marginal annotations on ff. 39r–v, which correspond to the beginning of the first chapter of the second book, include a long quotation which is extracted from the case history in *On Affected Parts*, where Galen had visited and diagnosed a friend of Glaucón.⁹⁸ There is no intention by the scholiast(s) to provide any practical details or explain any medical ideas; he is/they are simply interested in providing some introductory information about Galen and his addressee as a sort of prologue before the explanation of specialised medical notions begins. The useful connection made between two different works of the Galenic corpus shows that particular attention is paid to the reader, who is thus able to understand something of Galen's recipient and become aware of links between Galen's works. As I have already mentioned above, this is the

sole passage in the Galenic corpus, excluding our treatise, that gives some details about Glaucon and his growing relationship with Galen.

A considerable number of scholia have a structure of the following kind:

[Galen] called *hexis* the fleshy substance, whether thin or thick. For “the *hexis*”, as Galen says in the *Art [of Medicine]* “is used with reference to those bodies which someone observes first; these are the muscles, some kind of composite flesh which surround the bones on the outside”.⁹⁹

This passage deals with the reference to *hexis* in the second chapter of the second book of *Therapeutics to Glaucon*.¹⁰⁰ *Hexis*, sometimes translated as “state”, is a complicated medical term, which in Galen is closely connected with mixture (*kra-sis*) and thus with lifestyle factors, such as diet. It refers to the state of a certain part of the body or the entire body. A bad *hexis* is called *kachexia*, the opposite of *euexia*, a good *hexis*.¹⁰¹ The scholion starts by providing the term, so that the reader will be able to make the connection with the corresponding part of the work, and this is then followed by a relevant passage from the *Art of Medicine*.¹⁰² As already discussed above, reference was also quite often made by Stephen to other Galenic works in the commentary.¹⁰³ In addition to the *Art of Medicine*, we can see frequent references to the *Therapeutic Method* and *On the Natural Capacities*,¹⁰⁴ which were all studied in Alexandria and might suggest some sort of connection between the actual production of the scholia and a scholastic environment. On the other hand, there are some references to Galenic works which, although they may not be connected with the Alexandrian curriculum, constitute specialised treatises on particular subjects, such as *Outline of Empiricism* and *On Habits*.¹⁰⁵

To sum up, the commentator is a reader of an ancient work, in this case a Galenic treatise, and, at the same time, a writer of another treatise, whose composition depends on the commentator’s engagement with the original work. In all cases the commentary transfers the reader to the commentator’s own thought world and influences his/her understanding of it. There is an ongoing relationship between the author of the commentary and the reader, in which the latter is exposed to the former’s expertise (or lack of knowledge), a subjective process, even if the commentator makes no attempt to criticise the earlier author. New knowledge (as in the case of Stephen’s comments on eyes) was mixed with old knowledge, while the use of didactic aids, such as the branch diagrams, was introduced to create a fresh aid to understanding and memorising the *Therapeutics to Glaucon*. The commentator determines which particular Galenic passages are reproduced and even, in Stephen’s case, their length, although this may reflect an awareness of contemporary queries. The nature of the comments depends mainly on the level of expertise and educational background of the intended readers. In the above mentioned examples the main aim is to instruct future generations of physicians. In Stephen’s case, we noticed a systematic attempt to develop his readers’ knowledge by referring to what they have learnt in a previous lecture as essential to an understanding of certain parts of the *Therapeutics to Glaucon*. In

other instances, including the anonymous scholia to the second book, the reader is led in a particular direction concerning how to interpret a Galenic text on the basis of quotations from elsewhere in the Galenic corpus. This might work in different ways for later readers, who were not familiar, for example, with the Alexandrian curriculum, and might create an asymmetry between the knowledge provided and a Byzantine reader's background in other cultural contexts. Overall, it results in establishing connections between the *Therapeutics to Glaucôn* and other works, connections which had not been made by Galen himself. The commentator does not only give a new perspective on how to read a particular Galenic text, but also gives his reader the opportunity of having a wider view on how to approach and familiarise himself with the Galenic corpus. *Therapeutics to Glaucôn* became a powerfully didactic handbook in the hands of its early Byzantine commentators, who ensured its transmission and specified its use as an introductory treatise for future physicians.

Medical practice and Byzantine handbooks

The last section of this chapter deals with Byzantine medical handbooks.¹⁰⁶ Authors, from as early as the fourth century up to the fourteenth century, including Oribasios and John Zacharias Aktouarios, wrote medical manuals for practical purposes.¹⁰⁷ These were in most cases intended for practising physicians, although, as we will see below, there are examples of treatises written especially for *philiatroi*. Their contents varied, but in most cases, they consisted of diagnostic and therapeutic advice on a large number of diseases in an *a capite ad calcem* (from head to toe) order. Some authors, such as Paul of Aegina, laid a considerable emphasis on surgery, while Alexander of Tralles excluded the use of invasive techniques from his account. They are often considered important only for the preservation of ancient ideas and texts, chiefly Galen's.¹⁰⁸ However, recent studies have pointed to the intellectual labour behind the projects of these Byzantine authors and practising physicians, including occasionally their own modest contributions.¹⁰⁹ *Therapeutics to Glaucôn* constituted a constant source of inspiration for these authors, who were influenced by Galen's account of fevers and various kinds of inflammation.

As a focus for this discussion, I have selected a section from the *Therapeutics to Glaucôn* focusing on the diagnosis and treatment of *leipothymia*.¹¹⁰ This choice is based on the fact that it formed the basis for the corresponding chapters in the works of various Byzantine authors, which will allow us to show how Galenic knowledge was transmitted in medical manuals throughout the Byzantine era. I will not give the texts in tables of parallel columns, as scholars commonly do; instead, I will give the Greek text as *Lesetext*,¹¹¹ which will provide a better overview of the appropriation of the Galenic work. The printed text in the Appendix is by Galen; the single-line underlined parts are those copied by Oribasios; the dotted-line underlined parts are those copied by Aetios of Amida; the double-line underlined parts are those copied by both Oribasios and Aetios of Amida; the

italicised parts are those copied by Alexander of Tralles; additions by the aforementioned Byzantine authors are indicated in bold within square brackets.

Oribasios' *Synopsis for Eunapios* is a brief treatise in four books that lays great emphasis on therapeutics. It was especially written for his friend, the sophist Eunapios.¹¹² Eunapios, like Glaucon, appears to be a *philiatros* at whose request Oribasios wrote a work giving medical advice in case he found himself facing a medical issue with no physician available. Eunapios, too, is apparently already well-equipped with the appropriate knowledge to treat himself or even others who happened to be with him. The section on *leipothymia* is in Chapter 6 of Book 3, which itself starts with a special treatment for a variety of fevers, using Galen's *Therapeutics to Glaucon* in many places. Unlike Oribasios' treatise and its particular addressee, Aetios of Amida's and Alexander of Tralles' handbooks are addressed to physicians. Aetios' long handbook, *Tetrabiblos*, consists of sixteen books covering the following topics: pharmacology, dietetics, surgery, prognostics, general pathology, fever and urine lore, ophthalmology, cosmetics, dental matters, toxicology, and gynaecology and obstetrics.¹¹³ The chapters on *leipothymia* are included in Book 5 which concentrates on fevers and related symptoms. Aetios' work is characterised by a tendency to include uncritically all the available sources on various medical conditions, and he often reproduces the first-person personal pronouns of his sources,¹¹⁴ unlike, for example, Alexander of Tralles, who often makes his presence strongly felt throughout his writings. Alexander shows a considerable degree of eclecticism in his works together with a constant concern to provide the best, most effective, and least painful remedies for his patients, usually refined by his rich clinical experience. Alexander of Tralles' *On Fevers* is a monograph in seven chapters dealing exclusively with the diagnosis and treatment of fevers and related symptoms, although the author prioritises therapy over diagnosis.¹¹⁵

As we can see in the Appendix, the Galenic text has been abridged by all three authors in different ways. In using the Galenic work, we can detect verbatim quotations, either explicitly attributed to Galen or not. Neither Oribasios nor Aetios of Amida refer explicitly to Galen at the beginning of their accounts, while Alexander is keen to indicate his source by referring to the "most divine Galen", thus giving a more accurate indication to his readers.¹¹⁶ We should note, however, that Oribasios refers in his proem to Galen as one of his main sources in collecting his material (συναγαγεῖν ἐκ τε τῶν Γαληνοῦ πραγματειῶν), together with Rufus of Ephesus and other unnamed medical authors, although he does not specify what Galenic works were used.¹¹⁷ The same applies to Aetios of Amida, who in his proem makes reference to therapeutic books by Galen, Archigenes, and Rufus, and three works of Oribasios, i.e. *Synopsis for Eunapios*; *Synopsis for Eustathios*, which was especially written for his son, a practising physician; and the lost synopsis of the Galenic works made for his personal friend, the Emperor Julian (r. 361–3).¹¹⁸

All the authors omitted almost completely the first part of Galen's account related to aetiology and the section on the therapy of accompanying symptoms,¹¹⁹ mainly the treatment of haemorrhage, and started to include Galenic material

again from the advice on bathing. Perhaps, the first of these omissions is due to the less practical and more theoretical nature of the passage in question, while the treatment of haemorrhagic conditions is given in more detail in special chapters of their works.¹²⁰ Oribasios and Aetios of Amida show much greater similarities to one another in the material they select than to Alexander of Tralles who integrates longer parts of Galen's account in his treatise and shows a great awareness of parts dealing exclusively with diagnosis and aetiology.¹²¹ Alexander even supplements the text once with a brief sentence on the usefulness of a certain piece of diagnostic advice given by Galen: "and through this you can diagnose precisely".¹²² Aetios does not seem to draft directly from Oribasios' *Synopsis for Eunapios*, but he either based his text directly on Galen or on some other now lost source, perhaps Oribasios' epitome of the Galenic works for Julian or the lost part of his *Medical Collections* that dealt with *leipothymia*.¹²³ Aetios often prefers not to cut passages of a brief diagnostic and prognostic nature further,¹²⁴ and also, unlike Oribasios, evidently aims to provide all the Galenic references to medicinal plants.¹²⁵ It is notable that Aetios twice supplements the Galenic account with advice not provided by any other author: first with a brief piece of advice on differential diagnosis between *leipothymia* and *synkopē* and second with a brief therapeutic recommendation about women suffering from *leipothymia* due to excessive menstrual bleeding.¹²⁶

Although I make these observations in the absence of a critical edition of the Galenic text, while the status of the editions of the texts by Oribasios, Aetios, and Alexander is questionable in many instances, Alexander seems much closer to the Galenic original, retains the syntax in the vast majority of cases, and copies the Galenic original text almost word for word.¹²⁷ Bearing in mind Alexander's usually independent attitude and also his sometimes critical attitude toward Galen,¹²⁸ it may seem strange to those familiar with early Byzantine medical authors to find such a close resemblance between the Galenic original and Alexander. A detailed study on the compilation techniques and sources of early Byzantine medical authors that can clarify things further remains a *desideratum*. On the other hand, we should note that some stylistic variations (e.g. word order) might have been introduced in the process of transmission by Byzantine scribes as, for example, we have already detected above in some manuscripts of the Galenic treatise.

Another notable aspect is Aetios' and Alexander's division of Galen's account by chapter titles for the diagnosis or treatment of *leipothymia* arising from different causes (e.g. "On those swooning due to an accumulation of phlegm", "On those swooning due to excessive heat"), while the edition of Oribasios' text gives only one title at the beginning of the account.¹²⁹ In this way Aetios and Alexander show their concern that their readers should easily be able to follow their account and quickly consult the parts that they are interested in. Lastly, we should mention an even more abridged version of Galen's account in Paul of Aegina's *Epitome of Medicine*,¹³⁰ in which the Galenic original is reduced to a few essential details.

All in all, I hope I have shown another route through which Galen's *Therapeutics to Glaucōn* became available in Byzantium. The main intention here, compared to the didactic function of the commentaries, is the provision of practical

advice for the composition of Byzantine medical manuals. Authors did not simply copy the Galenic work, they made a special effort to make the best selections with clarity, sometimes supplementing the Galenic text with new observations, presumably derived from their practical experience, or even restructuring it with the inclusion of headings to facilitate their readers' encounter with the text.

Concluding remarks

I have shown different ways in which a Galenic text could be revived and made accessible in various contexts throughout the Byzantine era. It is evident that *Therapeutics to Glaucon* mattered to the Byzantines, who ensured its transmission and engaged creatively with it. The synoptic and practical nature of the text played a crucial role. Byzantine readers were exposed to a variety of textual versions and manuscript layouts in consulting the treatise, and they also came into contact with the text via indirect transmission. Byzantine scribes, medical authors, and physicians, consciously or unconsciously, had the power to control Byzantine readers' access to the Galenic text. In their attempts to use the text to serve their own purposes, Byzantine authors, themselves readers of the Galenic treatise, promoted its dissemination. By integrating their own views in the interpretation of the text commentators offered a new perspective on its understanding with the aim of teaching their readers and enhancing their knowledge on particular aspects of medicine. Authors of medical handbooks put great efforts into enriching their accounts by incorporating excerpts from the Galenic work, showing great care in their selection and prioritising "user-friendliness" in their re-arrangement of the Galenic material. Future studies should take a comparative look at the presence of various genres of classical literature in Byzantium and juxtapose evidence from other medieval examples, for instance in Latin or in Arabic, which could elucidate further our understanding of both the revival of classical literature and the accessibility of classical texts in medieval milieus.¹³¹

Appendix

Galen, *Therapeutics to Glaucón*, 1.15, ed. Kühn (1826) XI.47.6–61.4;
Oribasios, *Synopsis for Eunapios*, 3.7, ed. Raeder (1926) 401.31–404.3;
Aetios of Amida, *Tetrabiblos*, 5.102–116, ed. Olivieri (1950) II.91.12–96.4;
Alexander of Tralles, *On Fevers*, 3, ed. Puschmann (1878) I.337.6–347.26.

Oribasios; Aetios of Amida; Oribasios and Aetios of Amida; Alexander of Tralles;
[author’s own additions]

... τὰς δ’ ἀπὸ τῶν συμπτωμάτων τε καὶ νοσημάτων ἐνδείξεις οὐχ ἀπλῶς, ἀλλὰ κατὰ
τὴν ἐργαζομένην ἑκάστον αἰτίαν χρή σκοπεῖν, οἷόν ἐστι [Περὶ λειποθυμιῶν] [Περὶ
λειποθυμίας.] [Ἐπειδὴ δὲ καὶ λειποθυμίας συμβαίνουσι τοῖς κάμνουσιν ἐπιφέρουσαι
συγκοπὰς καὶ καταβάλλουσι τὴν δύναμιν αἰφνιδίως, ἀκόλουθόν ἐστι καὶ περὶ
5 τούτων διαλαβεῖν καθολικώτερον· εἴθ’ οὕτως ὅσα καὶ ἡμῖν δέδωκεν ὁ χρόνος
εἰδέναι, προσθήσομεν ῥήσεσι τοῦ θειοτάτου Γαληνοῦ.] ἡ λειποθυμία καὶ ἡ ἑκλύσις.
εἰώθασι γὰρ οἱ ἰατροὶ καθ’ ἑνὸς πράγματος ἅμφω ταῦτα τὰ ὀνόματα φέρειν· αὐτὸ μὲν
οὖν τὸ πρᾶγμα ἓν ἐστίν, αἰτίαι δ’ αὐτοῦ πολλάι. λειποθυμοῦσι γὰρ ἐπὶ τε χολέrais καὶ
διάρροίais καὶ δυσεντερίais καὶ λυεντερίais καὶ γυναικείῳ ῥῶ καὶ τραύμασιν,
10 αἱμορροίais τε καὶ ἀναγωγαῖs αἵματος καὶ ταῖs διὰ ῥινῶν αἱμορραγίais καὶ λοχείais
καθάρσεσιν ἀμέτροis. ἦνεγκε δὲ ποτε καὶ ἀπεψία μεγάλη λειποθυμίαν καὶ μάλισθ’
ὅταν ἀμετρότερον ὑπαγάγῃ τὴν γαστέρα. καὶ ὁ βούλιμος δὲ καλούμενος οὐδὲν ἄλλο ἢ
λειποθυμία ἐστί. καὶ ὑστερικῆς πνίξεως ἀπάσης λειποθυμία προηγεῖται· καὶ ταῖs
15 ἀναδρομαῖs τῶν ὑστέρων ἔπεται καὶ ταῖs παρεγκλίσεσι δὲ καὶ ταῖs φλεγμοναῖs αὐτῶν
πολλάκις ἀκολουθεῖ. προηγεῖται δ’ ἀποπληξίας τε καὶ κακοήθους ἐπιληψίας καὶ
διαφορήσεων καὶ τῶν συγκοπῶν καὶ μαρασμῶν. ἀλλὰ καὶ συνεισβάλλει ποτὲ
καταβολαῖs πυρετῶν οὐκ ὀλίγais καὶ μάλισθ’ ὅταν ἄκρως ἢ ξηρὸν καὶ αὐχμῶδες ἢ
20 πληθωρικὸν ἀμέτρως τὸ σῶμα. καὶ καυσώδει δὲ καὶ κακοήθει πυρετῶ συνεισέβαλέ
ποτε· καὶ τοῖs μεγάλως καταψυχθεῖσι τὰ ἄκρα τοῦ σώματος ἐν ταῖs εἰσβολαῖs τῶν
πυρετῶν· καὶ ὅσοι διὰ μέγεθος φλεγμονῆς ἢ ἥπατος ἢ κοιλίας ἢ στομάχου
πυρέσσουσι, καὶ οὗτοι λειποθυμοῦσι κατὰ τὰς ἀρχὰς τῶν παροξυσμῶν· μάλιστα δ’
οἷs πληθὸς χυμῶν ὤμῶν καὶ ἀπέπτων καὶ τις ἔμφραξις ἐπικαίρου μορίου.
λειποθυμοῦσι δὲ καὶ ὅσοις τὸ στόμα τῆς γαστρὸς ἄρρωστον, ἢ ὑπὸ μοχθηρίας χυμῶν
δάκνεται ἢ ὑπὸ παχέων ἢ γλίσχρων ἢ ὑγρῶν ἢ ψυχρῶν βαρύνεται. καὶ μὲν δὴ καὶ
25 ψυχικῶν παθῶν ἰσχυρὴ λειποθυμοῦσί τινες· μάλιστα δὲ πρεσβῦται πάσχουσιν αὐτὸ καὶ

- οἱ ἄλλως ἀσθενεῖς. καὶ γὰρ λυπηθέντες αὐτῶν πολλοὶ καὶ χαρέντες καὶ θυμωθέντες 49K
 ἐλειποθύμησαν. ἀλλὰ καὶ νοτίδες ἔσθ' ὅτε μὴ κατὰ καιρὸν τοῖς οὕτως ἔχουσιν
 ἐπιφαινόμεναι λειποθυμίας ἐπιφέρουσιν, ὥσπερ καὶ τοῖς ἰσχυροτέροις ἰδρῶτες
 ἄμετροι. καὶ εἰ ἀπόστημά τι ῥαγείη, βλάπτει τὴν δύναμιν ἰσχυρῶς· καὶ μάλιστα εἰ
 30 ῥαγὲν ἀθρόως εἰς κοιλίαν ἢ εἰς στόμαχον ἢ εἰς θώρακα συρρέοι. καὶ ἡμεῖς αὐτοὶ
 τέμνοντες ἀποστήματα εἰς τὸ πῦον ἀθρόως ἐκκενώσωμεν, ἀνάγκη λειποθυμῆσαι· καὶ
 εἰ καθαίροντες ἢ κλύζοντες ἢ ὅπως οὖν κενοῦντες, ἀθροώτερον αὐτὸ δράσωμεν· οὐδὲ
 γὰρ οὐδὲ τὸ ἐν τοῖς ὑδέροις ὑγρὸν καὶ τοι περιττὸν ὃν καὶ παρὰ φύσιν ἀλύπως
 ἀνέχεται τὴν ἀθρόαν κένωσιν, ἀλλὰ ἀνάγκη καὶ τότε λειποθυμῆσαι τὸν ἄνθρωπον.
 35 ἀλλὰ καὶ διὰ μέγεθος ὁδύνης ἐκλύσεις γίνονται δῆξεών τινων ἢ στρόφων ἢ εἰλεῶν ἢ
 κωλικῆς διαθέσεως ἐξαίφνης ἐμπεσούσης. ἀλλὰ καὶ νεῦρον τρωθὲν καὶ μυὸς κεφαλὴ
 λειποθυμίαν ἤνεγκε καὶ τὰ ἐν τοῖς ἄρθροις ἔλκη τὰ κακοήθη καὶ τὰ γαγγραινώδη καὶ
 νομώδη σύμπαντα καὶ τις ἄμετρος ψύξις ἢ θερμασία καὶ ἡ τοῦ ζωτικοῦ τόνου λύσις. 50K
 αὗται μὲν αἱ τῆς λειποθυμίας αἰτίαι. καθ' ἐκάστην δὲ αὐτῶν ἡ θεραπεία ἴδιος, καὶ
 40 γράψαι νῦν ὑπὲρ πασῶν οὐκ ἐγχωρεῖ. τὰς γὰρ ἐν τοῖς πάθεσι συνεδρενούσας οὐχ οἷόν τε
χωρὶς ἐκείνων ἰάσασθαι. τοσοῦτον οὖν ἐν τῷ παρόντι λόγῳ ἐροῦμεν περὶ αὐτῶν, εἰς
ὅσον ἂν τις μαθὼν ἱκανὸς εἴη τοῖς ἐξαίφνης ἐμπίπτουσιν ἐνίστασθαι παροξυσμοῖς.
[διαφέρει δὲ λειποθυμία συγκοπῆς, ὅτι ἡ μὲν λειποθυμία αἰφνίδιον ἐπιπίπτει,
ἀναίσθητον καὶ ἀκίνητον τὸν ἄνθρωπον ἐργαζομένη καὶ οὐ πάντως ἰδροῦσιν· ἡ
 45 δὲ συγκοπὴ καὶ ἐγρηγοροῖ καὶ καταφερομένοις συμπίπτει καὶ πάντως μεθ'
ἰδρώτων τῶν συγκοπτικῶν συνήθως λεγομένων. Περὶ τῶν ἐπὶ διαρροαῖς ἢ
αἱμορραγίαις ἢ ἰδρώτων ἀμέτροις κενώσεσι λειποθυμούντων] [Περὶ τῶν ἐπὶ ταῖς
ἀθρόαις κενώσεσιν ἐκλυομένων] οἷον ὅτι τοῖς μὲν χολέραις καὶ διάρροιαῖς καὶ ταῖς
ἄλλαις ταῖς πολλαῖς καὶ ἀθρόαις κενώσεσιν ἐκλυομένοις ὕδωρ τε ψυχρὸν προσραίνειν
 50 καὶ τοὺς μυκτῆρας ἐπιλαμβάνειν καὶ ἀνατρίβειν τὸ στόμα τῆς γαστρὸς καὶ κελεύειν
ἐμεῖν ἢ σπαράττειν τὸν στόμαχον ἥτοι δακτύλων ἢ πτερῶν καθεύεσιν· ἀλλὰ καὶ χεῖρας
καὶ σκέλη καὶ πόδας διαδεῖν· εἶναι δὲ χρὴ καὶ τοὺς δεσμοὺς πλείονας μὲν καὶ
σφοδρότερους ἐν ταῖς χερσίν, ὅταν διὰ τῶν κάτω μερῶν αἱ κενώσεις γίνωνται,
 55 καθάπερ ἐν ταῖς αἱμορροῖσι καὶ διάρροιαῖς ὅσας τε διὰ τῶν ὑστερῶν αἱ γυναῖκες κενοῦνται.
 τὸ γὰρ τὰ σκέλη τηνικαῦτα σφοδρῶς διαδεῖν ἐπισπᾶται τι κάτω πολλάκις.
 ἔμπαλιν δ' ἐν ταῖς διὰ τε ῥινῶν αἱμορραγίαις καὶ τοῖς ἐμέτοις οἱ δεσμοὶ πλείονές τε
 καὶ σφοδρότεροι κατὰ τὰ σκέλη γιγνέσθωσαν. καὶ μὲν δὴ καὶ ὅσοις ἐπὶ τρώμασιν 51K
 αἱμορραγοῦσιν, ὡσαύτως ἄνω μὲν ἐπὶ τοῖς κάτω· κάτω δ' ἐπὶ τοῖς ἄνω τὰ δεσμὰ
 περιβάλλειν. ἐξευρίσκειν δέ τι καὶ ἀνάρροπον σχῆμα τῷ μέρει, μὴ μέντοι πάνυ
 60 σφόδρα· τεινόμενον γὰρ ἐν τῷδε καὶ πονοῦν οὐδὲν ἦττον ἢ εἰ κατάρροπον ἦν
 παροξύνεται. τὸ δὲ σύμπαν ἢ ἐπὶ τὰ κοινὰ ἀντισπᾶν τοῖς πεπονθόσιν ἢ ἐπὶ τὰ τῆς
 κενώσεως κατάρξαντα· διὰ τοῦτο τὰς μὲν ἐκ τῶν ὑστερῶν ἀθρόας κενώσεις αἱ παρὰ
 τοὺς τιθοὺς προσβαλλόμεναι σικύαι τάχιστα παύουσι· τὰς δὲ διὰ τῶν ῥινῶν ἥπατί τε
 καὶ σπληνὶ κατὰ τὴν αἱμορραγοῦσαν ῥῖνα, καὶ εἰ δι' ἀμφοτέρων ἀθρόον καὶ πολὺ
 65 φέροιτο, τοῖς σπλάγχχοις ἀμφοτέροις προσβάλλειν. ἰᾶται δὲ καὶ οἶνος ὕδατι ψυχρῷ
κεκραμένος τὰς ἐπὶ ταῖς ἀθρόαις κενώσεσιν ἐκλύσεις καὶ μάλιστα τῶν εἰς τὴν γαστέρα
ρέπόντων ρευμάτων. ἐπισκοπεῖσθαι δὲ ἦν μὴ τι κωλύῃ τὴν τοιαύτην δόσιν, οἷον εἰ
 σπλάγχχον τι φλεγμαῖνον ἢ κεφαλῆς ἄλγημα σφοδρότερον ἢ παρακρουστικόν τι
 πάθος ἢ πυρετὸς καυσώδης ἐν ἀπέπτῳ νοσήματι. μεγάλαι γὰρ ἐν τοῖς τοιούτοις καὶ
 70 σχεδὸν ἀνίατοι ταῖς τῶν οἶνων πόσεσιν ἔπονται βλάβαι. μηδενὸς δὲ κωλύοντος, 52K

- ἐφεξῆς δεῖ διορίζεσθαι τήν τε φύσιν τοῦ νοσοῦντος καὶ τὸ ἔθος καὶ τὴν ἡλικίαν καὶ τὴν τοῦ περιέχοντος ἀέρος κρᾶσιν· εἰς ταῦτα γὰρ ἀποβλέπων ἢ θερμὸν ἢ ψυχρὸν δώσεις τὸ πόμα. τοὺς μὲν γὰρ ἀήθεις ψυχροῦ πόματος ἢ καὶ φανερώς βλαπτομένους ὑπ' αὐτοῦ καὶ ὅσοι φύσει ψυχρότεροι καὶ τοὺς ἐν ἐσχάτῳ γήρα ἢ καὶ χωρίῳ
- 75 ψυχροτέρῳ φύσει ἢ καὶ χειμῶνος εἵργειν τοῦ ψυχροῦ. τοῖς δ' ἐναντίως ἔχουσιν ἀδεῶς δίδοναι πίνειν. ἔστω δὲ καὶ οἶνος ἐπὶ μὲν τοῖς εἰς τὴν γαστέρα ρεύμασι θερμός τε καὶ λεπτὸς, οἶος ὁ Λέσβιος. ἐπὶ δὲ ταῖς αἰμορράγαις παχύς τε καὶ μέλας καὶ στρυφνός. ἐπὶ δὲ τοὺς τόπους αὐτοὺς ἐπιτιθέναι, γαστρὶ μὲν καὶ μήτρᾳ καὶ στομάχῳ καὶ θώρακι τὰ τονοῦν πεφυκότα. κεφαλῇ δὲ καὶ μετώπῳ καὶ ταῦτα καὶ τὰ ψύχοντα. καὶ ἐφ' ὧν
- 80 ἐπιπολῆς καὶ κατὰ τοὺς μυκτῆρας φλεβῶν εἴη τις ἐρρώγουῖα, τῶν ἐπεχόντων φαρμάκων τὸ αἷμα ἐπιτιθέναι. λουτρὰ δὲ τοῖς μὲν εἰς τὴν γαστέρα ρεύμασιν ἐπιτηδειότατα· τὰς δ' αἰμορράγιας δεινῶς παροξύνει. καὶ ὅσοι διὰ πλήθος ἰδρώτων λειποθυμοῦσι, καὶ τούτοις ἐναντιώτατα, χρὴ γὰρ αὐτῶν στύφειν τε καὶ ψύχειν, οὐ χαλᾶν τὸ δέρμα. καὶ τὸν οἶνον ψυχρὸν μάλιστα δίδοναι τούτοις καὶ μηδὲν ὅλως προσφέρειν
- 85 θερμόν. ἀλλὰ μηδὲ διαδεῖν τὰ κῶλα, μήδ' ἀναγκάζειν ἐμεῖν, μηδὲ κινεῖν ὅλως. καὶ πνευμάτων εἰσόδους ψυχόντων ἐπιτεχνᾶσθαι καὶ τὸν ἀέρα τοῦ οἴκου τρέπειν εἰς ψυχουσάν τε καὶ στρυφνὴν ποιότητα, μυρσίναις τε καὶ ἀμπέλων ἔλιξι καὶ ῥόδοις καταστρωννύντα τοῦδαφος· τούτων οὐδὲν χρήσιμον τοῖς εἰς τὴν γαστέρα ρεύμασιν, αὔξεται γὰρ εἰς ὅσον ἂν πυκνωθῇ τὸ δέρμα. τοῖς μὲν οὖν ἐπὶ ταῖς κενώσεσιν
- 90 ἐκλυομένοις οὕτω βοηθεῖν ἐν γε τῷ παραχρῆμα. [Περὶ τῶν ἐπὶ πλήθει χυμῶν λειποθυμούντων] [Περὶ τῶν διὰ πλήθος λειποθυμούντων] τοῖς δ' ἐπὶ πλήθεσιν οὐκ ἔθ' ὁμοίως, ἀλλὰ τρίβειν ἐπὶ πλεῖστον ἐπ' ἐκείνων τὰ κῶλα καὶ θερμαίνειν καὶ διαδεῖν. οἶνου δὲ καὶ τροφῆς ἀπέχειν καὶ λουτρῶν, εἰ πυρέττοιεν· ἀρκεῖ δ' αὐτοῖς μελικράτου τε δίδοναι πόμα ἢ θύμου ἢ ὀριγάνου ἢ γλήχωνος ἢ ὑσσώπου ἔχοντος ἐναφηψημένον.
- 95 ἐπιτήδειον δὲ καὶ ὀξύμελι. [Περὶ τῶν διὰ τινα διάθεσιν περὶ ὑστέραλν λειποθυμουσῶν] [Περὶ τῶν ἐφ' ὑστέραλν λειποθυμούντων] καὶ τὰς ἐφ' ὑστέραις δὲ πεπονθυῖαις ἐκλυομένας ὡσαύτως ἰᾶσθαι, πλὴν ὀξύμέλιτος, καὶ διαδεῖν καὶ τρίβειν σκέλη μᾶλλον ἢ χεῖρας. [ἐπὶ τῶν ὑστερικῶς πνιγομένων] καὶ ὥσπερ ἐπ' ἐκκρίσει πολλῇ παρὰ τοὺς τιτθοὺς σικύας ἐπιτίθεμεν, οὕτως αἷς ἀνέσπασται καὶ παρέσπασται,
- 100 βουβῶσί τε καὶ μηροῖς προσάξομεν. καὶ ταῖς μὲν ῥίσιν ὀσφραντὰ δυσωδέστατα, ταῖς δὲ μήτραις εὐώδη. καὶ τὰ χαλᾶν καὶ θερμαίνειν δυνάμενα φάρμακα προσοίσομεν. [Περὶ τῶν δι' ἄμετρον κένωσιν τῶν καταμηνίων λειποθυμουσῶν. ταῖς δὲ δι' ἄμετρον κένωσιν τῶν καταμηνίων λειποθυμούσαις τὰς χεῖρας μᾶλλον διαδήσομεν καὶ τρίψομεν καὶ σικύας παρὰ τοὺς τιτθοὺς ἐπιθήσομεν. Πρὸς τοὺς δι' ἀτονίαν στομάχου λειποθυμούντας] [Περὶ τῶν ἐπὶ στομάχῳ ἀτονοῦντι λειποθυμούντων] εἰ δ' ἄρρώστος ὁ στόμαχος εἴη καὶ ταύτῃ λειποθυμοῖεν, ἐπιπλάττειν μὲν τοῖς τονοῦν δυναμένοις, οἷα τὰ τε διὰ τῶν φοινίκων ἐστὶ καὶ οἶνου καὶ ἀλφίτων καὶ κρόκου καὶ ἀλόης καὶ μαστίχης· ἐπιβρέχειν δὲ τοῖς δι' ἀψινθίου καὶ μηλίνου καὶ μαστιχίνου καὶ νάρδου καὶ οἰνάνθης καὶ οἶνου. [Περὶ τῶν ἐκκαιομένων τὸν στόμαχον] καὶ εἰ
- 110 ἐκκαίοιντο, μιγνύναι τι καὶ τῶν ψυχόντων, οἷον τῆς τε κολοκύνθης τὸν χυλὸν καὶ τῆς θριδακίνης καὶ τῆς ἀνδράχνης καὶ τοῦ στρύχνου καὶ τῆς σέριος [ἢ ὀξυλαπάθου] καὶ τοῦ ὄμφακος. οὗτος μὲν γε οὐ ψύχει μόνον, ἀλλὰ καὶ στύφει. καὶ ψυχρὸν ὕδωρ τοῖς διακαιομένοις τὸν στόμαχον ὥνησε πολλάκις ἐν καιρῷ δοθὲν, ἄλλως δὲ μεγάλως βλάπτει. [παρὰ καιρὸν διδόμενον· καὶ διὰ τοῦτο μᾶλλον χρὴ ἀκριβῶς
- 115 διαγινώσκειν.] καὶ χρὴ μᾶλλον οἶνου θερμοῦ δίδοναι τοῖς ἀρρώστοις τὸν στόμαχον, εἰ 55K

- μηδὲν ἄλλο κωλύει· ὤνησε δὲ μεγάλως τοὺς τοιούτους στομάχους καὶ ἡ τῶν ἀκρωτηρίων τρίψις. εἰ δ' ἐπὶ τούτοις βελτίους μὴ γένοιτο, τοὺς μὲν ἐκκαίονμένους ἐπὶ λουτρὸν ἄγειν τὴν ταχίστην. ὅσοι δὲ ψύξεώς τινος αἰσθῆσιν ἔχουσι, τοῦ τε διὰ τριῶν πεπέρεων φαρμάκου καὶ αὐτοῦ [τὸ λευκὸν πέπερι] τοῦ πεπέρεως μόνου καὶ
- 120 ἀψινθίου πινόντων. [Περὶ τῶν διὰ μοχθηρὸν χυμὸν δάκνοντα τὸ στόμα τῆς γαστρὸς λειποθυμούντων] ὅσοι δὲ μοχθηρῶν χυμῶν δακνόντων τὸ στόμα τῆς γαστρὸς ἐκλύονται, διδοὺς ὕδωρ θερμὸν ἢ ὑδρέλαιον ἐμεῖν κελεύειν. εἰ δὲ δυσεμεῖς εἶεν, θάλπειν
- 125 χρὴ πρότερον αὐτά τε τὰ περὶ τὸν στόμαχον χωρία καὶ πόδας καὶ χεῖρας. εἰ δὲ μὴδ' οὕτως δύναιντο, πτερὰ ἢ δακτύλους καθιέντας ἐρεθίζειν. εἰ δὲ μὴδ' οὕτως, αὐθις αὐτοῖς
- 130 ἔλαιον θερμὸν ὅτι κάλλιστον δοτέον. εἴωθε δὲ πολλάκις τοῦλαιον οὐκ εἰς ἔμετον μόνον ὀρμαῖν, ἀλλὰ καὶ τὴν γαστέρα λαπάττειν· ἔστι δὲ καὶ τοῦτο οὐ μικρὸν ἀγαθὸν τοῖς παροῦσιν. ὥστ' εἰ μὴ γένοιτο αὐτόματον, ἐπιτεχνᾶσθαι χρὴ· μάλιστα δὲ τοῖς προσθέτοις αὐτὸ πειρᾶσθαι δρᾶν· εἰ δὲ ῥᾶον ἐπὶ τοῖσδε γένοιτο, καὶ ἀψινθίου κόμην ἐναφύσων
- 135 μελικράτῳ διδόναι πίνειν καὶ οἶνον ἐφεξῆς· καὶ παντοίως ῥωννύναι τὰ μόρια διὰ τε τῶν ἔξωθεν ἐπιτιθεμένων φαρμάκων καὶ τοῦ ἀψινθίου ταῖς πόσεσιν. οὐ μὴν κατ' ἀρχὰς κελεύω σε τοῦτο ποιεῖν οὕτως, ἀλλ' ὕστερον, ἡνίκα μὲν ἤδη καθαρὰ τὰ περὶ τὴν κοιλίαν ἢ περιεχομένων δ' ἔτι τῶν χυμῶν ἐν αὐτῇ μηδέπω στύφειν, ἀλλ' ἀρκεῖ θάλπειν μόνον, ὥς ἔμπροσθεν εἴρηται. [Εἰ δὲ διὰ φλέγμα ἄθροισθὲν ἐν τῷ στομάχῳ λειποθυμοῦσι]
- 140 [Περὶ τῶν ἐπὶ φλέγματι λειποθυμούντων] φλέγματος δὲ πολλοῦ καὶ ψυχροῦ κατὰ τὸ στόμα τῆς γαστρὸς ἠθροισμένου, καταντλεῖν μὲν ἐπὶ πλεῖστον, ἐλαίῳ συνέψων ἀψίνθιον· ἐφεξῆς δὲ τοῦ μελικράτου διδόναι ἢ ὑσώπου ἢ τι τῶν ὁμοίων ἀποβρέχων ὀξύμελίτος τε καὶ πεπέρεως καὶ τοῦ διὰ τριῶν πεπέρεων καὶ τοῦ διοσπολιτικοῦ φαρμάκου. καὶ τὸ σύμπαν σοι τῆς διαίτης κεφάλαιον τμητικὸν ἔστω. [Περὶ τῶν ἐπὶ ψύξει λειποθυμούντων] τὰς δ' ἐπὶ ταῖς ἰσχυραῖς ψύξεσιν ἐκλύσεις ὁμοίως τοῖς
- 145 βουλίμοις ἰᾶσθαι, παντὶ τρόπῳ θερμαίνοντα. τὸν τε οὖν οἶνον αὐτοῖς διδόναι θερμῷ κεκραμένον καὶ τροφὰς τὰς θερμαίνειν πεφυκυίας, ἀνατρίβειν τε καὶ θάλπειν παρὰ πυρί. [Πρὸς τοὺς διὰ θερμασίαν πλείονα λειποθυμούντας] [Περὶ τῶν ἐπὶ θερμασίᾳ λειποθυμούντων] τὰς δ' ἐπὶ θερμασίᾳ πλείονι γινομένης λειποθυμίας τοῖς ἐμψύχειν τε καὶ τονοῦν δυναμένοις. ἐμπίπτουσι γὰρ αὐταὶ μάλιστα τοῖς ἐν ἀέρι πνιγώδει καὶ
- 150 βαλανείῳ χρονίσασι. ῥώσεις οὖν αὐτοὺς ἐν μὲν τῷ παραχρῆμα τότε ψυχρὸν ὕδωρ προσραίνων καὶ ῥιπίζων καὶ πρὸς ἄνεμον τρέπων καὶ τρίβων τὸ στόμα τῆς κοιλίας καὶ σπαράττων· ἐφεξῆς δ' ἤδη καὶ οἶνον διδοὺς καὶ τροφὰς. [Πρὸς τοὺς διὰ μέγεθος φλεγμονῶν ἢ κακοήθειαν πυρετῶν λειποψειχοῦντας ἐν ταῖς εἰσβολαῖς] [Περὶ τῶν ἐπὶ φλεγμοναῖς πυρετώδεσι λειποθυμούντων] τοὺς δὲ διὰ μέγεθος φλεγμονῆς ἢ καὶ
- 155 κακοήθειαν σφοδροῦ πυρετοῦ λειποθυμούντας ἐν ταῖς εἰσβολαῖς καὶ καταψυχομένους τὰ κῶλα τρίβων ἰσχυρῶς καὶ θάλπων καὶ διαδῶν σκέλη τε καὶ χεῖρας, ἐγρηγορέναι τε κελεύων καὶ σιτίου παντὸς ἀπέχεσθαι καὶ πόματος. ἄριστον δ' ἐπὶ τούτων προγνῶναι τὸ μέλλον ἔσεσθαι καὶ φθάνειν αὐτὰ πράξαντα πρὸ τοῦ παροξυσμοῦ. [Πρὸς τοὺς διὰ ξηρότητα ἐν ταῖς τῶν παροξυσμῶν ἀρχαῖς συγκοπτομένους] καὶ τοὺς διὰ ξηρότητα
- 160 δὲ συγκοπτομένους ἐν ταῖς τῶν παροξυσμῶν ἀρχαῖς ἄριστον προγινώσκειν. εἰ γὰρ ὥραις που δύο ἢ τρισὶν ἔμπροσθεν πρὸ τοῦ παροξυσμοῦ θρέψαις, διακρατεῖσθαι τε πόδας καὶ χεῖρας κελεύσειας, οὐκ ἂν ἀπόλαιντο. εἶναι δὲ χρὴ τὰς τροφὰς εὐπέπτους τε καὶ εὐστομάχους. εἰ δὲ καὶ σφοδρὸν τὸν κίνδυνον ὑπονοήσης ἔσεσθαι, φθάνειν οἶνου διδόναι καὶ μάλιστ' εἰς χόνδρον ἐφθὸν τὸν οἶνον ἐπιχέας προσφέρειν. εἰ δὲ καὶ ἄρτον
- 160 ἀντὶ χόνδρου δοίης, ἴσον δύναται. μετρίας δὲ τῆς συγκοπῆς προσδοκωμένης οὐδὲν

- οἴνου δεῖ, ἀλλ' ἄρκεῖ τηνικαῦτα ῥοιῶν ἢ ἀπίων ἢ μῆλων ἢ τινος ἄλλης ὀπώρας
 στυφούσης ταῖς τροφαῖς μιγνύναι. καὶ εἰ ἐπὶ τοῖσδε μετρίως τὸν παροξυσμὸν ἐνέγκοιεν,
 αὐθις τρέφοντας οὐκ ἀναγκαῖον ὀπώραις χρῆσθαι. ταῦτα μὲν πράττειν, εἰ προγνοίης τὸ
 μέλλον ἔσεσθαι. τοῖς δ' ἐξαίφνης εἰς τὸν κίνδυνον ἐμπίπτουσιν οἴνου τε διδόναι θερμοῦ
 165 καὶ ἄρτου καὶ χόνδρου σὺν αὐτῷ θερμοῦ παντελῶς ὀλίγον. εἰ γὰρ τούτοις πλεῖον δοίης
 ἢ δυσπεπτότερα σιτία τοῖς οὕτως ἔχουσιν, οὐ συγκοπήσονται μόνον, ἀλλὰ καὶ
 πνιγῇσονται τελέως. [Πρὸς τοὺς δι' ἔμφραξιν κυρίου μορίου λειποθυμοῦντας]
[Περὶ τῶν δι' ἔμφραξιν ἐπικαίρου μορίου λειποθυμούντων] τοῖς δὲ δι' ἔμφραξιν
 ἐπικαίρου μορίου λειποθυμοῦσιν ὁξὺμελί τε διδόναι καὶ τὸ δι' ὑσσώπου καὶ ὀριγάνου
 170 καὶ γλήχωνος καὶ μέλιτος πόμα· καὶ τροφὰς τοῦ τμητικωτέρου τρόπου. τὰ γὰρ παχέα
 καὶ γλίσχρα μεγάλας ἐν τοῖς τοιούτοις ἐργάζεται βλάβας. ἀλλὰ καὶ τὰ κῶλα τρίβειν τε
 καὶ διαδεῖν οὐδὲν χειρόν. ἀγαθὸν δὲ καὶ τοῖς οὖρα κενοῦσι χρῆσθαι πόμασιν, οἷα τὰ τε
 δι' ἀνήθου καὶ μαράθρου καὶ σελίνου καὶ πετροσελίνου καὶ ἄμμεως καὶ δαύκου καὶ
 175 νάρδου στάχυνος· ἐφ' οἷς φανερᾶς οὔσης ἤδη τῆς ὠφελείας οἶνω χρῆσθαι λευκῷ καὶ
 λεπτῷ μὴ πάνυ παλαιῷ. [Σημεῖα ἔμφράξεως] γνωριεῖς δὲ τὰς τοιαύτας ἔμφράξεις ταῖς
 τ' ἄλλαις ἀνωμαλίαις τῶν σφυγμῶν καὶ μάλισθ' ὅσαι κατὰ μέγεθός τε καὶ μικρότητα
 καὶ σφοδρότητα καὶ ἀμυδρότητα γίνονται, μὴ παρούσης τῆς καλουμένης πληθωρικῆς
 συνδρομῆς, εἰσὶ γὰρ κἀκείνης κοιναί. γίνονται δὲ καὶ διαλείποντες ἐπὶ ταῖς μεγάλαις
 τῶν τοιούτων διαθέσεων οἱ σφυγμοί. ταῦτα μὲν οὖν ἐπὶ πλεον ἐν τοῖς περὶ σφυγμῶν
 180 λέγεται. νυνὶ δὲ μεταβῶμεν ἐπὶ τὸν περὶ τῶν ὑπολοίπων ἐκλύσεων λόγον· οἷον [Περὶ
τῶν ἐπὶ τομῇ ἀποστημάτων ἢ ῥήξει λειποθυμούντων] ὅσαι τε διὰ ῥῆξιν ἀποστήματος
 ἢ τομὴν γίνονται καὶ [Πρὸς τοὺς δι' ἀθρόαν κένωσιν τινὰ λειποθυμοῦντας] ὅσαι
 διὰ κένωσιν ἀθρόαν ἐν ὑδέροις. ἀπόχρη δὲ τούτοις ἐν μὲν τῷ παραυτίκα τοῖς
 ὀσφραντικοῖς ἀνακτήσασθαι· μικρὸν δ' ὕστερον ῥοφήμασιν εὐπέπτοις χρῆσθαι. [Πρὸς
 185 τοὺς διὰ λύπην ἢ χαρὰν ἢ φόβον ἢ θυμὸν λειποθυμοῦντας] [Περὶ τῶν ἐπὶ χαρᾷ ἢ
λύπῃ καὶ τοῖς ὁμοίοις καὶ περὶ τῶν ἐπὶ ὀδύνῃ λειποθυμούντων] εἰ δὲ διὰ λύπην ἢ
 χαρὰν ἢ φόβον ἢ θυμὸν ἢ ἔκπληξιν ἐκλυθεῖεν, ὀσφρητικοῖς τε καὶ ταῖς τῶν ῥινῶν
 καταλήψεσιν ἀνακτησάμενον ἐμεῖν ἀναγκάζειν. ὡσαύτως δὲ καὶ τοὺς ἐπὶ τραύμασιν ἢ
 190 καθάρσεσιν ἢ ἀλγῆμασι τοῖς κατὰ τὰ ἄρθρα καὶ νεῦρα καὶ τῶν μυῶν τοὺς τένοντας ἐν γε
 τῷ παραχρῆμα δεῖ ἀνακτᾶσθαι· μετὰ δὲ ταῦτα τὴν προσήκουσαν ποιεῖσθαι τοῦ
 παθήματος θεραπείαν. [Περὶ τῶν ἐπὶ εἵλεῳ ἢ κώλῳ λειποθυμούντων] αἱ δ' ἐπὶ τοῖς
 κωλικοῖς πάθεσιν ἢ τοῖς εἵλεοις ἢ τινὶ τῶν οὕτω μεγάλας ἐπιφερόντων ὀδύνας ἐπόμεναι
 λειποθυμίαι ταῖς τε τῶν πεπονθότων μορίων ἀλέαις μάλιστα καθίστανται καὶ ταῖς τῶν
 ἄκρων τρίψεσιν. [Περὶ τῶν ἐπὶ ἀρρώστια δυνάμεως λειποθυμούντων] τὰς δὲ δι'
 195 ἀρρώστίαν οἰκείαν τῶν διοικουσῶν τὸ σῶμα δυνάμεων ἐκλύσεις ἐπὶ δυσκρασία τῶν
 μορίων ἐκείνων γιγνομένας, ὅθεν αἱ δυνάμεις ὀρμῶνται, ταῖς ἐναντίαις δυσκρασίαις
 ἰᾶσθαι προσήκει, θερμαίνοντας μὲν τὰς ψυχρὰς, ψύχοντας δὲ τὰς θερμὰς, ἐπὶ τε τῶν
 ἄλλων ἀνάλογον. ἡ μὲν οὖν ζωτικὴ καλουμένη δύναμις, ἣν ἐκ καρδίας ὀρμωμένην
 ἐδείξαμεν, ἐκ τῶν ἀμυδρῶν σφυγμῶν γνωρίζεται. ἡ δ' ἐξ ἥπατος μὲν ὀρμωμένη,
 200 θρεπτικὴ δ' ὀνομαζομένη, ταῖς αἱματώδεσι διαχωρήσεσι κατ' ἀρχὰς μὲν ὑδατώδεσί τε
 καὶ λεπταῖς γιγνομέναις, ὕστερον δὲ παχείαις, οἷαπερ ἡ ἀμοργή. τὴν δ' ἀπ' ἐγκεφάλου
 μὲν ὀρμωμένην δύναμιν ἐξαιρέτως δ' ὑπὸ τινων ὀνομαζομένην ψυχικὴν, τῇ ἐπὶ τὰς
 προαιρετικὰς κινήσεις ἀρρώστια γνωρίζομεν. ἀλλὰ περὶ μὲν τῶν τοιούτων διαθέσεων
 205 ἰδίᾳ σοι γράψομεν ἐν ἐτέρῳ γράμματι, πάμπολλα γάρ ἐστιν ἐν αὐτοῖς παρορώμενα
 τοῖς ἰατροῖς.



Figure 9.2 Beinecke MS 1121, f. 117v
(Beinecke Rare Book and Manuscript Library, Yale University, New Haven, CT)



Figure 9.3 Beinecke MS 1121, f. 117r
(Beinecke Rare Book and Manuscript Library, Yale University, New Haven, CT)



Figure 9.4 Laurentianus Plut. 75.9, f. 175r
(Biblioteca Medicea Laurenziana, Florence)

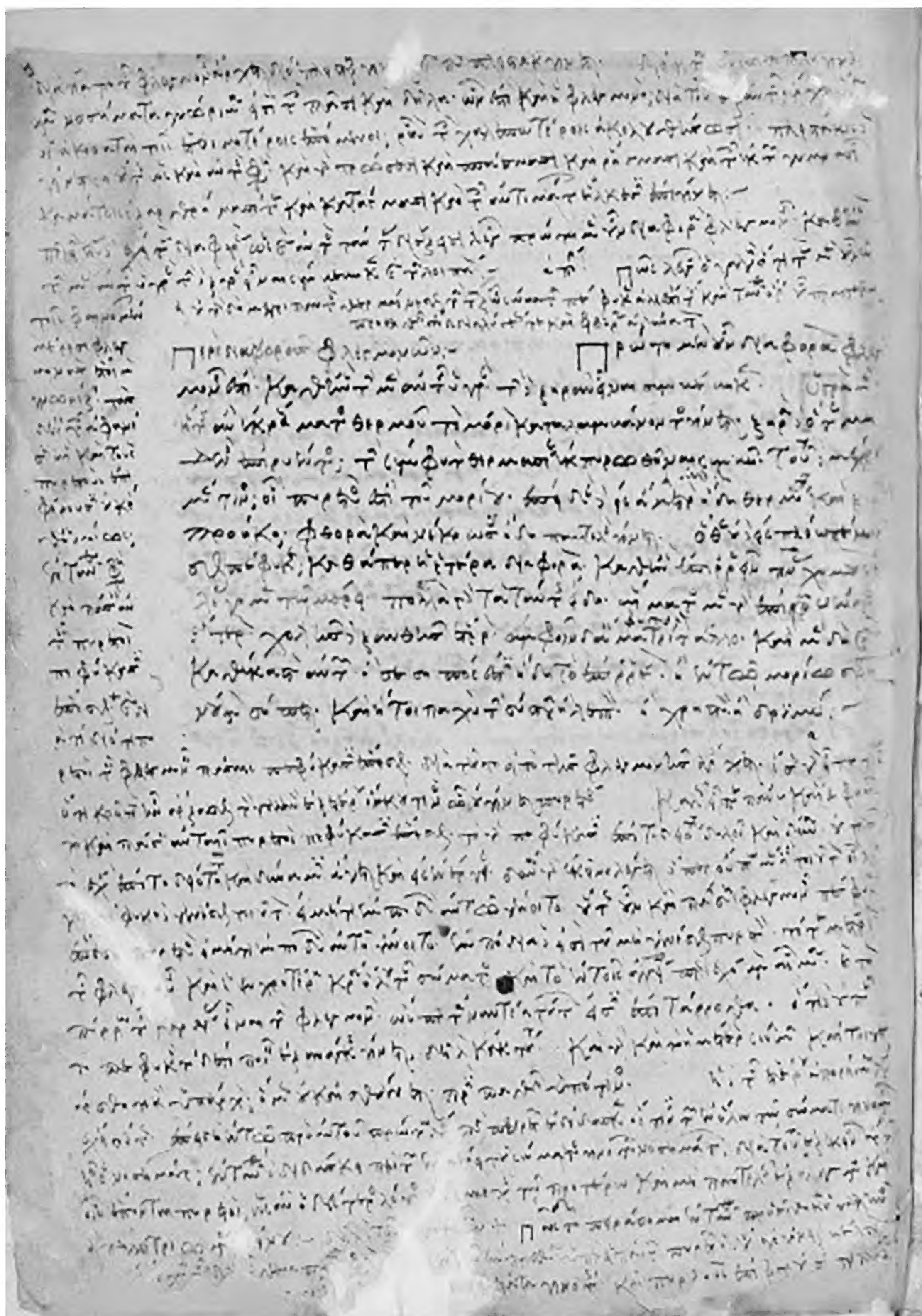


Figure 9.5 Parisinus suppl. gr. 634, f. 39v
(Bibliothèque nationale de France, Paris)



Figure 9.6 Parisinus suppl. gr. 634, f. 48v
(Bibliothèque nationale de France, Paris)

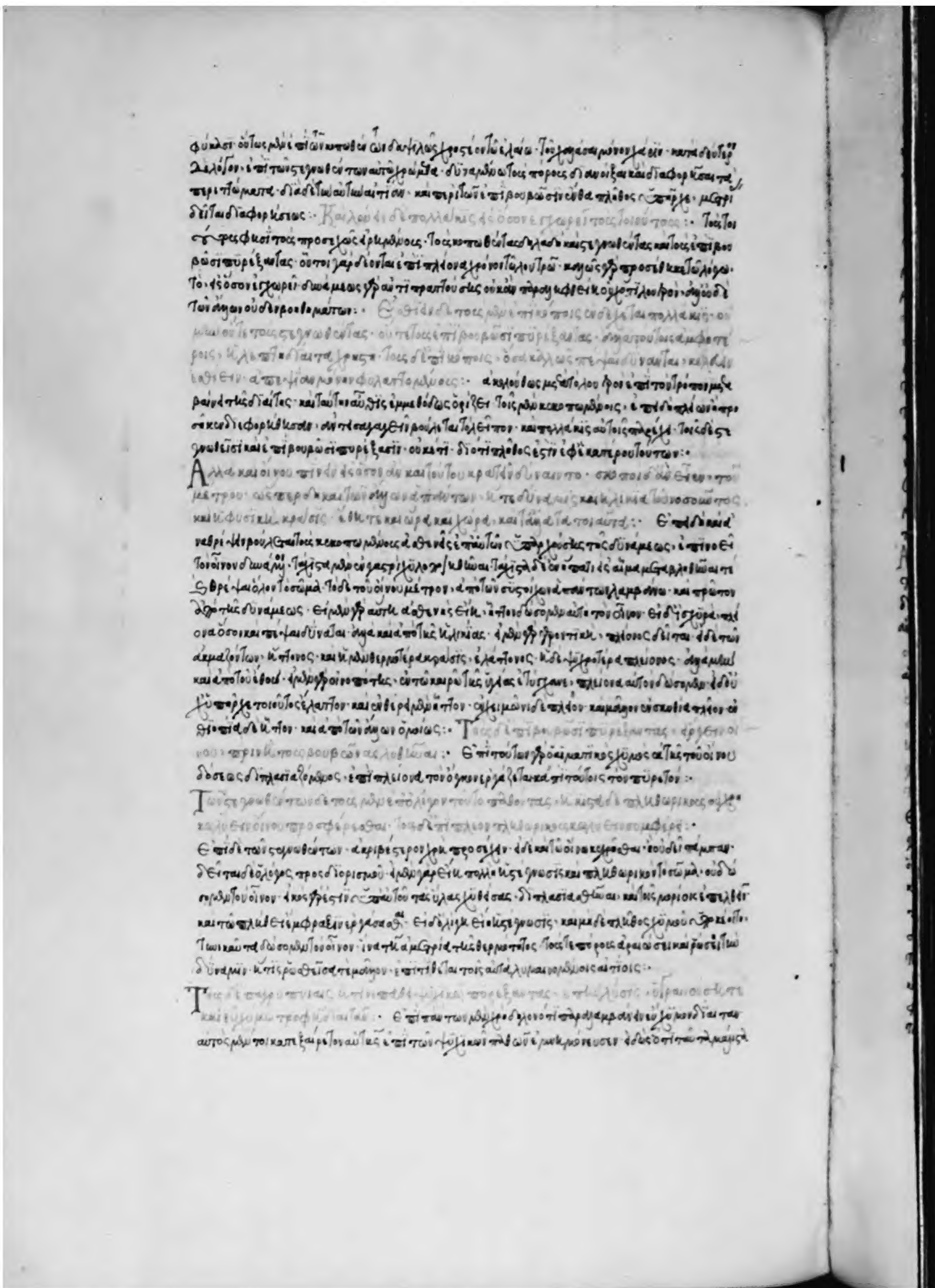


Figure 9.7 Marcianus gr. App. cl. V/4 (coll. 544), f. 133v

(Biblioteca Nazionale Marciana, Venice)

Notes

- * This chapter has benefited from feedback given by audiences at King's College London (2014) and the University of Oxford (2016). I am also grateful to Klaus-Dietrich Fischer, Michael Trapp, and the anonymous reviewer for their detailed comments on an earlier draft and to Georgi Parpulov for bibliographical suggestions. I would like to thank the personnel in the Biblioteca Medicea Laurenziana (Florence), Biblioteca Ambrosiana (Milan), Biblioteca Nazionale Marciana (Venice), Österreichische Nationalbibliothek (Vienna), Bibliothèque Nationale de France (Paris), Wellcome Library (London), and Beinecke Rare Book and Manuscript Library, Yale University (New Haven, CT), for facilitating *in situ* access to manuscripts and allowing the reproduction of digital images. Sincere thanks go to Wellcome Trust (200372/Z/15/Z) for supporting my research and for covering the open access publishing costs. This chapter is dedicated to my beloved brother, Yerasimos, who had been a great companion during an adventurous research trip to Italy in summer 2016.
- 1 There are of course ancient papyri, which preserve Greek texts, usually in a fragmentary condition; additionally, entire texts or synopses of Greek texts, which are now lost in the original but survive in other languages in medieval translations, such as Latin and Arabic.
 - 2 In the case of medicine, for example, Vivian Nutton (1984: 2) calls the early Byzantine medical authors “refrigerators of antiquity”. Later on this negative view was followed and indiscriminately applied to all Byzantine medical literature by Gotthard Strohmaier (1998: 154), who stated: “medical thought in the Byzantine world had not truly new features”. On the other hand, see the recent thought-provoking study by Jeffreys (2014: 171), who, in addressing classicists working with Byzantine literature, aptly states: “For classicists the message is that they should cease quibbling over iotacist errors and recognise the intellectual endeavours that lie behind so much Byzantine activity”.
 - 3 Jauss (1982: 20): “. . . the understanding of the first reader will be sustained and enriched in a chain of receptions from generation to generation”.
 - 4 For an overview of Galen's Byzantine reception, see Nutton (2007: 171–6); and Bouras-Vallianatos (2015a: 431–5). For the early Byzantine period, in particular, see Temkin (1973: 51–94). On the current status of research on the Byzantine reception of the classical world in general, see Jeffreys (2014: 158–74). See also the edited volume by Mullett and Scott (1981), which provides a wide range of studies on the presence of the classical tradition in a variety of literary genres in Byzantium.
 - 5 The work is available in Kühn's edition (1826) XI.1–146. The first book has been translated into English and critically edited by Dickson (1998: 20–278) on the basis of manuscripts which transmit Stephen's early Byzantine commentary on the text only. The entire text is available in French and English translation by Daremberg (1856: II.706–84) and Johnston (2016: 336–559) respectively. On the dating, I follow Peterson's convincing conclusion in his substantial study of the text (1974: 3–16) and his specialised article on the dates of the Galenic corpus (1977: 484–95). He has narrowed down Ilberg's (1896: 179–94) earlier attempt at dating the treatise, which proposed it had been written between AD 169 and 180.
 - 6 Galen, *Loc. Aff.*, 5.8, ed. Kühn (1824) VIII.361.12–366.5. On this case history, see Peterson (1974: 29–32); and Mattern (2008: 81–6).
 - 7 Galen, *Loc. Aff.*, 5.8, ed. Kühn (1824) VIII.362.6–8. The English translation is by Siegel (1976: 161).
 - 8 Galen, *MMG*, 1.1, ed. Kühn (1826) XI.1.9–2.1: ἡξιώσας μὲν γὰρ ἡμᾶς, ἱαμάτων τινά σοι καθόλου μέθοδον ὑποτυπώσασθαι. English translation by Johnston (2016: 337): “you asked me to sketch out for you some general method of treatment”.
 - 9 Galen, *MMG*, 1.1, ed. Kühn (1826) XI.3.18–4.2. English translation by Johnston (2016: 341). Glaucon is consistently called a philosopher by later Byzantine and Arab authors

- in referring to Galen's *Therapeutics to Glaucou*; see the evidence collected by Peterson (1974: 28–9). There is also a brief phrase in Galen's *On My Own Books*, 4, ed. Kühn (1826) XIX.31.12–13, reading “καὶ τῷ Γλαύκωνι τῷ φιλοσόφῳ δοθέντα δύο” (“and two [books] given to Glaucou the philosopher”) that refers to Glaucou's philosophical identity, but it was put in brackets by Müller (1891) 109.20, without providing a convincing explanation of his choice (1891: lxxxix), although it was included in the sole manuscript, i.e. Ambrosianus gr. 659 olim Q 3 Sup. (fourteenth/fifteenth centuries). The most recent edition by Boudon-Millot (2007) 157.16–7, which also considers a newly discovered witness of the text, i.e. Vlatadon 14 (fifteenth century) that retains the phrase, follows Müller's choice. On this passage, see Peterson (1974: 26–7).
- 10 Galen, *MMG*, 2.8, ed. Kühn (1826) XI.112.7; 2.4, XI.99.15; and 1.1, XI.5.11–13 respectively.
 - 11 Galen, *MMG*, 2.2, ed. Kühn (1826) XI.81.7–10; and 2.9, XI.124.10–13;
 - 12 Galen, *MMG*, 2.12, ed. Kühn (1826) XI.143.7–8. The term “cancer” (καρκίνος) in ancient medical texts refers to ulcer, described as a superficial abnormality often caused by an excess of black bile and it could also refer to malignant lesions; on this, see the brief entry by Leven (2005: 538–9).
 - 13 Galen, *MMG*, 1.12, ed. Kühn (1826) XI.38.3–5; 2.3, XI.84.7–8; and 2.12, XI.142.14–16.
 - 14 Galen, *MMG*, 2.10, ed. Kühn (1826) XI.132.1–6.
 - 15 Galen, *MMG*, 2.13, ed. Kühn (1826) XI.145.12–14: ταῦτα μὲν οὖν εἰς ἀποδημίαν σοι μακρὰν στελλομένῳ νομίζω συμμέτρως ἔχειν. English translation by Johnston (2016: 558): “these things would, I think, be convenient for you to have when setting out on a long journey abroad”.
 - 16 On medical handbooks written for *philiatroi* in Byzantium with a particular focus on John Zacharias Aktouarios' *Medical Epitome*, see Bouras-Vallianatos (2015d: 160–206).
 - 17 Galen, *MMG*, 2.1, ed. Kühn (1826) XI.4.5–6.
 - 18 Oribasios, *Synopsis for Eunapios*, pr., ed. Raeder (1926) 317.33–5. On the *diaphōnia* in Oribasios' *Synopsis for Eunapios*, see van der Eijk (2010: 531).
 - 19 It should be noted, however, that not all doctors performed surgery. On the activity of physicians and surgeons in the Roman Empire, see Jackson (1988: 56–85).
 - 20 LSJ, s.v. φίλιτρος: “friend of the art of medicine”. On the concept, see Kudlien (1970: 18–20); and Luchner (2004: 9–21). *Philiatroi* were expected to be well educated, but not practising physicians. See also Galen's *On the Preservation of Health*, in which he refers explicitly to the group of *philiatroi*; for example, he does not hesitate to provide extra details in particular passages, so as to be clear enough even for those with just an elementary knowledge of medicine, *On the Preservation of Health*, 4.5 and 6.14, ed. Kühn (1823) VI.269.11–17 and 449.5–7 = ed. Koch (1923) 118.30–119.4 and 197.2–4.
 - 21 Galen, *Comp. Med. Loc.* and *Comp. Med. Gen.*, ed. Kühn (1826–7) XII.378–1003, XIII.1–361 and XIII.362–1058.
 - 22 Galen, *MMG*, 2.13, ed. Kühn (1826) XI.145.14–146.3.
 - 23 Galen, *MM*, ed. Kühn (1825) X.1–1021. On the content and audience of Galen's *Therapeutic Method*, see Nutton (1991: 5–9).
 - 24 Apart from a predictable reference in his *On My Own Books*, 4, ed. Kühn (1830) XIX.30.18 = ed. Boudon-Millot (2007) 157.1–2, in which Galen discusses all his books concerning therapeutics, and a brief reference in his *On Crises*, 2.13, ed. Kühn (1825) IX.696.15–17 = ed. Alexanderson (1967) 162.1–3, where Galen does not expect from his reader to consult *Therapeutics to Glaucou*, there is no other mention of the work in his corpus. For example, it is not mentioned in Galen's own list of his works in his *Art of Medicine* (written after AD 193), 37, ed. Kühn (1821) I.407.8–412.3 = ed. Boudon (2002) 388.4–392.17, in which he recommends to his readers those treatises that could provide the necessary theoretical background on a variety of specialised medical subjects; on this, see Boudon (2002: 192–6).

- 25 Fevers caused by humoural imbalances are considered diseases by Galen, by contrast with ephemeral fevers, which are identified as symptoms; see Galen, *MMG*, 1.3–4, ed. Kühn (1826) XI.16.13–17.7. There is a useful study on this by Wittern (1989: 3–22).
- 26 For a detailed commentary on the entire treatise from a medical point of view, see Peterson (1974: 47–93).
- 27 Peterson (1974: 32–46) and Dickson (1998: 19, n. 1) agree on the identification of Glaucon as a *philiatros*. Johnston (2016: 321) refers to Glaucon as a philosopher with an interest in medicine. Nutton (2004: 868) considers Glaucon to be a physician. In a personal communication I had with Vivian Nutton, he reaffirmed and expanded his view, seeing Glaucon either as a practitioner or a very good *philiatros* on the grounds that *Therapeutics to Glaucon* is too detailed to be an introductory handbook. Boudon refers to Glaucon as a physician and philosopher (2000: 482–4) and believes that the work could be considered useful for beginners in medicine (1994: 1454): “Et en ce sens il est légitime, comme les Alexandrins l’ont fait, de considérer le ‘Ad Glauconem’ comme un ouvrage utile à des débutants”.
- 28 On the peculiarities of editions of Galenic works, see Nutton (2008: 356–63).
- 29 For a concise discussion of the edition of texts preserved in Byzantine manuscripts, see Jeffreys (2008: 86–94).
- 30 Diels (1905: 93); and Touwaide (2016: *passim*). A useful list of witnesses with associated bibliographical references is also available on <http://pinakes.irht.cnrs.fr/notices/oeuvre/3164/> (accessed 5 March 2017), although it should be consulted with caution on this particular work; for example, both Laurentianus Plut. 75.9 (fifteenth century) and 75.16 (fifteenth century), available in digital reproduction online at <http://teca.bmlonline.it/TecaRicerca/index.jsp> (accessed 5 March 2017), contain *Therapeutics to Glaucon* (ff. 174r–219v and ff. 149v–192r respectively) and not the erroneously listed *Therapeutic Method* (<http://pinakes.irht.cnrs.fr/notices/cote/16694/> and <http://pinakes.irht.cnrs.fr/notices/cote/16701/> respectively, accessed 5 March 2017). There are a few surviving papyrus fragments with excerpts of Galenic works, but none of the *Therapeutics to Glaucon*; for an updated list, see http://cipl93.philo.ulg.ac.be/Cedopal/MP3/dbsearch_en.aspx (accessed 5 March 2017), s.v. Galenus. The work was translated into Syriac (Degen 1981: 146, n. 56) and Arabic (Ullmann 1970: 45–6, n. 40; and Sezgin 1970: 82–3, n. 6); see Hunayn ibn Ishāq’s (d. 873) comments on the Syriac and Arabic translations of the *Therapeutics to Glaucon* in his *Epistle (Risāla)*, 8, ed. Lamoreaux (2016) 15.6–17.5. It was also translated into Latin before the mid-fifth century AD (see Fischer 2003: 111–12, 285–6 and 2012: 103–16; and www.galenolatino.com/index.php?id=11&L=&uid=40, accessed 5 March 2017) and later on by Niccolò da Reggio (fl. early fourteenth century) (see www.galenolatino.com/index.php?id=11&L=&uid=95, accessed 5 March 2017).
- 31 On Galen’s textual transmission in Byzantium, see Wilson (1987: 47–64). The spread of surviving manuscripts containing Galenic works peaks in the Palaiologan period. We should bear in mind that, before the widespread introduction of paper in the twelfth century, parchment codices were the norm; see Irigoin (1977: 45–54) and Lowden (2008: 462–72). Another reason might be the destruction of Byzantine books, especially those in private libraries, during the seizure of Constantinople by the fourth crusade in 1204. On the dating of Parisinus suppl. gr. 446 (ff. 1r–31v) and Vaticanus gr. 2254 (ff. 1r–20v) with relevant bibliographical references, see Buzzi (2012: 237–8) and Lilla (1985: 430–2).
- 32 Buzzi (2012: 237–42).
- 33 On Kühn as an editor of Galen’s *Opera Omnia*, see Nutton (2002: 1–8).
- 34 The examples are mostly based on Buzzi’s, but all the transcriptions of passages, including those from Parisinus suppl. gr. 446, are based on my own consultation of the relevant manuscripts. Transcriptions from Greek are diplomatic and retain the spelling and punctuation of the relevant codex.

- 35 For a list of contents, see Omont (1888: 262); and <http://pinakes.irht.cnrs.fr/notices/cote/53179/> (accessed 5 March 2017).
- 36 On the contents and date of Parisinus suppl. gr. 634 (ff. 39r–64r) with relevant bibliographical references, see Omont (1888: 287); Lorusso (2005: 44, n. 4); Garofalo (2005: 15–16, nn. 48–9); Garofalo (2008: 62); and <http://pinakes.irht.cnrs.fr/notices/cote/53369/> (accessed 5 March 2017). A digital reproduction is available online at: <http://gallica.bnf.fr/ark:/12148/btv1b52501352s/f105.image.r=Suppl%C3%A9ment%20grec%20634> (accessed 5 March 2017).
- 37 On Laurentianus Plut. 75.9 (ff. 174r–219v) contents and date, see Bandini (1764–70: II.155–6); and Bouras-Vallianatos (2015d: 351, 392). On Beinecke MS 1121 (ff. 107r–140r), available online at <http://brbl-dl.library.yale.edu/vufind/Record/3445989> (accessed 5 March 2017), see García Novo (2012: 24–5); and <http://pinakes.irht.cnrs.fr/notices/cote/46568/> (accessed 5 March 2017).
- 38 I use Johnston’s (2016: 349) English translation, slightly modified. Kühn’s edition (1826) XI.8.11–12 is in agreement with P here: . . . τὰ τῶν κατακλίσεών τε καὶ τῆς ἀναπνοῆς καὶ ὅσα κάτω τε καὶ ἄνω κενοῦται.
- 39 I use Johnston’s (2016: 361) English translation, slightly modified. Kühn’s edition (1826) XI.17.8–13 is closer to F in this case: . . . κατὰ τὴν πρώτην ἡμέραν διαγνωστέον οἷός τις ἐστὶν ὁ πυρετός, ἄρα γε χρόνιος ἢ ὀξύς, καὶ πότερον τῶν διαλειπόντων καλουμένων ἢ τῶν συνεχῶν. εἰ δὲ μὴ οἷόν τε περὶ τὴν ἡμέραν τὴν πρώτην, ἀλλὰ τῇ δευτέρᾳ γε πειρατέον ἐξευρεῖν τὴν ἰδέαν τοῦ πυρετοῦ.
- 40 On textual corruptions in the transmission of Greek and Latin texts, see Reynolds and Wilson (1991: 222–33), who provide a variety of useful examples; see also the recent relevant discussion by Tarrant (2016: 85–104).
- 41 For a brief introduction to Byzantine manuscript layout, see Maniaci (2005: 326–8); see also Maniaci (1995: 16–41), in which she discusses the topic in more detail and gives examples from both Greek and Latin manuscripts.
- 42 I have not consulted all the available manuscripts and I am only concentrating on a few representative examples.
- 43 LSJ, s.v. σημειόω, A.II.3. In the mid-fifteenth-century medical manuscript Wellcome MS.MSL.52 (f. 96v) a non-scribal hand, in explicating the significance of the text, adds in the margins “ση(μείωσαι) τοῦτο ὡς ἀναγκαῖον” (“note well this as essential”); on this particular manuscript, see Bouras-Vallianatos (2015b: 286–92).
- 44 On the development of textual indicators in early Byzantine manuscripts, see Lazaris (2010: 285–98). It should be noted that coloured ink is often used in Byzantine manuscripts to mark chapter titles.
- 45 LSJ, s.v. αἱμορραγέω, αἱμορραγία; and ῥήγνυμι, C.2.
- 46 Galen, *MMG*, 1.15, ed. Kühn (1826) XI.52.16–18: καὶ ἐφ’ ὧν ἐπιπολῆς καὶ κατὰ τοὺς μυκτῆρας φλεβῶν εἴη τις ἐρρώγνυα, τῶν ἐπεχόντων φαρμάκων τὸ αἷμα ἐπιτιθέναι. English translation by Johnston (2016: 417): “And if on the surface of these or in the nostrils, there is some rupture of veins, apply the blood-staunching medications”.
- 47 There is an edition of these scholia by Garofalo (2008: 91–103).
- 48 On symbols used for scholia on the *Iliad*, see Maniaci (2006b: 287–8). On the arrangement of scholia in the margins of early Byzantine manuscripts, see the studies by Zuntz (1975); Wilson (1984: 103–10); McNamee (1998: 269–88); and Montana (2011: 115–55).
- 49 **Q** is not listed in Sonderkamp’s (1987: xviii–xix) study of the manuscript tradition of Theophanes’ medical work. The identification of the excerpts was first made by Garofalo (2008: 61, n. 3). In a recent communication Barbara Zipser, who is currently preparing a critical edition of the text, reported that this fragmentary version of the text does not allow her to allot it a definite place in the stemma of an otherwise huge tradition. Theophanes’ text is available in Bernard’s edition (1794–5). See also Sonderkamp (1984: 29–42), who provides a brief study of the author and the work.

- 50 See Reynolds and Wilson (1991: 64–5). For a general overview of books and readers in Byzantium, see Wilson (1975: 1–15); Hunger (1989); and recently Gaul (2016: 981–95).
- 51 On Marcianus gr. App. cl. V/4, see Mioni (1972: 254–5). The manuscript does not give the commentary a title, but simply has the heading “ἀρχὴ τῆς μικρᾶς θεραπευτικῆς” (“beginning of the small therapeutic manual”), which refers to the brief nature of the *Therapeutics to Glaucōn* compared to the long Galenic treatise *Therapeutic Method* that precedes our work in this manuscript.
- 52 The commentary survives in five post-Byzantine codices and has been critically edited by Dickson (1998: 19–279). On the manuscript tradition of the commentary, see Dickson (1998: 5–16). It is notable that in Ambrosianus L 110 sup., the lemmata do not often provide the Galenic text in full, but only the first couple of words.
- 53 Cf. Aristotle, *EN*, 1146b, ed. Bywater (1894): ἡ γὰρ λύσις τῆς ἀπορίας εὕρεσις ἐστίν (“the solution of a problem/difficulty is a discovery”). Interestingly, on another witness of the text, i.e. Ambrosianus L 110 sup. (= A, sixteenth century), there are a couple of times in which specific terms, i.e. κείμενον (= text) and ἐξήγησις (= explanation/interpretation), are used to label the lemma and the commentary respectively in the margins; on the contents and date of the Ambrosianus L 110 sup. see Martini and Bassi (1906: II.596–8).
- 54 On the terminology relating to various forms of layout, see Maniaci (2006a: 242–4). On the layout of Byzantine manuscripts with scholia, see the useful studies by Irigoin (1984: 85–102); Cavallo (2000: 55–64); and Sautel (2000: 89–98). See also Budelmann (2002: 143–8), who discusses the physical appearance of commentaries on Homer and Hesiod by the twelfth-century Byzantine scholar John Tzetzes. On the layout of medieval Latin manuscripts with commentary, see Holtz (1984: 139–67) and (2000: 101–18).
- 55 On the Galenic commentaries, see Manuli (1983: 471–82); Mansfeld (1994: 131–76), Vallance (1999: 228–42); von Staden (2002: 109–39); and Flemming (2008: 323–54). See also Andorlini (2000: 40, 48), who discusses a third-/fourth-century medical papyrus fragment (PFlor. 115 = CPF III 4) with brief lemmata alternating with the commentary. On the aesthetics of writing commentaries in general, see Gumbrecht (2003: 41–53).
- 56 On contents and date, see Baffioni (1960: 41–6); Hunger (1969: 60–2); and Gundert (1998: 91–2).
- 57 For a brief introduction to the study of medicine and philosophy in Alexandria, see Pormann (2010: 419–25); and Nutton (2013: 305–6). See also Temkin (1932: 51–80) and the substantial studies by Palmieri (1997: 33–133) and (2002: 5–23). Duffy (1984: 21–7) provides a useful collection of information on medical teaching and practice in the sixth and seventh centuries.
- 58 Majcherek (2008: 191–206).
- 59 For a reconstruction of the medical curriculum and an analysis of the versions by Ḥunayn ibn Ishāq (d. 873) and Ibn Riḍwān (d. 1068), see Iskandar (1976: 235–58); cf. Roueché (1999: 153–69). There is another Arabic source, which was edited by Garofalo (2000: 135–51), attributed to John the Grammarian (Yaḥyā al-Naḥwī), an Alexandrian scholar whose name is only known from the Arabic tradition and should not to be confused with the well-known John Philoponos or the author of Hippocratic commentaries John of Alexandria; on John the Grammarian, see Garofalo (1999: 185–218); and Pormann (2003: 233–63). The only source in Greek is found in Stephen’s, 1.pr, *Commentary on the “Prognostic” of Hippocrates*, ed. Duffy (1983) 30.31–34.11, which refers to the Hippocratic works most probably studied in Alexandria; on this, see Duffy (1997: 9–11), and Westerink (1992: 11–12).
- 60 None of the Alexandrian summaries survive in Greek, but there are surviving versions in Arabic translation. On the Alexandrian summaries, see Garofalo (2003: 203–31).

- See also Pormann (2004: 11–33), who by focusing on the summary of Galen's *On the Sects for Beginners*, shows that these texts are not simple abridgements, but incorporate rich commentaries.
- 61 See the very informative overview by Manetti (2015: 1197–215).
 - 62 See Mazzini and Palmieri (1991: 285–310), who argue for the possible existence of a medical school in Ravenna. The city served as the capital of the Kingdom of the Ostrogoths in the late fifth and early sixth centuries before its reconquest by the Byzantine (Eastern Roman) Empire and the subsequent establishment of the Exarchate of Ravenna in 584, after which it became the seat of the emperor's representative in Italy. In both periods it experienced a considerable cultural flourishing.
 - 63 Palmieri (1981: 197–296).
 - 64 Garofalo (1994: 329–48). There is one briefer summary, preserved in Arundel Or. 17 (AD 1218, ff. 17r–41v) and attributed to Yaḥyā al-Naḥwī, which is closely related to the longer one preserved in British Library Add. MS 23407 (seventeenth century, ff. 72v–157r) and Wellcome MS Arabic 62; see also Peterson (1974: 101–12, 115–16).
 - 65 On the transmission of this work and the modern edition, see n. 52 above. It is noteworthy that there is no evidence in the surviving commentary to suggest the existence of a commentary on the second book of the treatise.
 - 66 Critical editions by Westerink (1985), (1992), (1995) and Duffy (1983) respectively.
 - 67 See, for example, Stephen, 44, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. and tr. Dickson (1998) 100.1–17 and 101, in which he starts his account as follows: "I visited the patient [εἰσελθὼν παρὰ τὸν ἄρρωστον] immediately on the first day and found him afflicted with shuddering . . .". See also Stephen, 40, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 94.25–96.13; and Stephen, 3.29, *Commentary on the "Prognostic" of Hippocrates*, ed. Duffy (1983) 290.9–12.
 - 68 See Wolska-Conus (1989: 5–89), Temkin (1991: 228, n. 1), and Papathanasiou (2006: 163–203), who are in favour of this identification. On the other hand, Roueché (2012: 120) has recently argued that "Wolska-Conus' hypothesis should be abandoned"; see also Roueché (2016: 541–63) and cf. Lumpe (1995: 1406–9). See also the recent informative entries by Searby (2016: 563–79) and Boudon-Millot (2016: 579–88). We are also aware of some alchemical texts under the name of Stephen; see Martelli (2016: 557–63).
 - 69 On his medical commentaries, see Duffy (1983: 11–13); and Dickson (1998: 1–3). On Stephen's Hippocratic commentaries, in particular, see Wolska-Conus (1992: 5–86); and Mansfeld (1994: 52–4). Stephen makes special mention of Alexandria twice in his texts. In the first instance he refers to a particular plant growing in Alexandria, 214, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 252.5–7, and, in the second example, he refers to the city's climate, 3.16, *Commentary on the "Aphorisms" of Hippocrates*, ed. Westerink (1992) 106.5–11. Dickson and Duffy, on the basis of the first example and of both respectively, argue that there is no doubt that Stephen was active in the city. Although this is very probable, neither of the examples provides a definite reference to Stephen's place of work.
 - 70 On this kind of division, see Richard (1950: 191–222); and Westerink (1964: 170–1).
 - 71 On the didactic function of commentaries in the ancient world, see Sluiter (1999: 173–205).
 - 72 Stephen, 23, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. and tr. Dickson (1998) 78.28–9 and 79.
 - 73 See, for example, Stephen, 9, 13, 159, 182, and 209, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 60.14, 66.12–13, 198.5, 220.24, and 246.2.
 - 74 See, for example, Stephen, 53, 158, 182, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 112.13, 194.16, 220.9–10.
 - 75 The use of the first-person plural is common in ancient Greek and Latin scientific texts, and Galen himself makes use of it. For its use by Galen and the notion of "communality", see König (2011: 183–6), who argues for a didactic relationship between author

- and reader. See also Bouras-Vallianatos (2014: 341–2), who discusses its employment by the sixth-century medical author and practising physician Alexander of Tralles.
- 76 On the power of a commentator in manipulating a source text, see Sluiter (2013: 191–214).
- 77 Stephen, 12, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 64.1–6 = Galen, *MMG*, 1.2, ed. Kühn (1826) XI.11.10–16. I use Johnston's translation slightly modified (2016: 353).
- 78 English translation by Dickson (1997: 65).
- 79 Here I prefer the reading of Ω , i.e. the consensus of Ambrosianus L 110 sup. (= **A**), Haunicns. bibl. univ. e don. var. (= **C**), and Marcianus gr. App. cl. V/4 (= **M**).
- 80 Stephen, 61, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. and tr. Dickson (1998) 120.4 and 121. This recalls Galen's own statement in his proemium to the *Commentary on the Fractures of Hippocrates*, ed. Kühn (1830) XVIIIb.319.11–12: δέδεικται δὲ ἐν ἐκείνῳ τὸ μὲν ὄντως ἀσαφὲς αὐτὸ δι' ἑαυτὸ τοιοῦτον ὑπάρχον.
- 81 See, for example, Stephen, 1, 11, 53, 198, and 209 *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 20.12–24.19, 62.15–34, 112.12–17, 234.19–238.4, and 246.1–19.
- 82 See, for example, Stephen, 1, 18, 43, 209, and 227, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 20.17, 74.4, 98.21–2, 246.2, and 272.28.
- 83 See, for example, Stephen, 9, 209, 214, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 60.18, 246.13–14, 252.11–13.
- 84 See, for example, Stephen, 198, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 236.1ff.
- 85 Stephen, 53, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. and tr. Dickson (1998) 112.10–12 and 113.
- 86 Galen, *Puls.*, ed. Kühn (1824) VIII.453–92. On the introductory nature of this work, see Boudon (1994: 1441–5). See also Curtis (2009: 63–79), who discusses Galen's didactic strategies in the treatise in question.
- 87 [Hippocrates], *Aphorisms*, 2.13, ed. Littré (1844) IV.472.11–13 = ed. Jones (1931) 110.18–20.
- 88 Stephen, 227, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. and tr. Dickson (1998) 272.22–7 and 273.
- 89 See Stephen, 5, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 36.10–3, in which he presents Galen arguing for the usefulness of the method of division (διαίρετική μέθοδος) for the instruction of medical students and the avoidance of errors by physicians. This method is known from antiquity; see Talamanca (1977: 3–189) and Mansfeld (1992: 326–31). On the Alexandrian method of division with further examples throughout the Byzantine period, see Ieraci Bio (2003: 9–51). It is notable that, on at least one occasion, the brief text accompanying the diagrams (in this case corresponding to chapters 6–18 of the *Art of Medicine*) was transmitted in textual form without any diagrams; on this see Ieraci Bio (2007: 149–61).
- 90 Λειποθυμία refers to a temporary loss of consciousness and can be translated into English as “fainting”, “swooning”, or “syncope”. On this term, see Johnston (2016: 408–9, n. 22). When referring to the term in Galen's *Therapeutics to Glaucón*, Peterson (1974: 61) states that “*leipothymia* [is] an approximate counterpart to what is now called ‘shock’”. See also Stamatu (2005: 149–50).
- 91 Stephen, 163, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 202.9–10 = Galen, *MMG*, 1.15, ed. Kühn (1826) XI.47.11–12. I use Johnston's translation slightly modified (2016: 409).
- 92 Stephen, 163, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. and tr. Dickson (1998) 202.11–15 and 203.
- 93 Stephen, 163, *Commentary on Galen's "Therapeutics to Glaucón"*, ed. Dickson (1998) 202.15ff.

- 94 See Pormann (2004: 12–21).
- 95 This is also substantiated by the fact that the Galenic works represented in the diagrams of the Vindobonensis med. gr. 16 were part of the Alexandrian curriculum. On the connection between the diagrams and the early Byzantine commentaries and summaries of Galenic works, see Temkin (1935: 412–20) and recently Overwien (2012: 169–75) and (2013: 187–217). On further connections between the branch diagrams and Stephen's commentary, see Gundert (1998: 102, 116–44). Klaus-Dietrich Fischer has brought to my attention the existence of diagrams in Latin connected with *Therapeutics to Glaucón* in Escorialensis N III 17 (twelfth century), ff. 136v–137v for example. These Latin diagrams have not been examined by scholars up to now, and the current catalogue by Antolín (1913: 155–6) does not refer to them.
- 96 Garofalo (2008: 65–6).
- 97 Helmreich (1910: 3); Garofalo (2008: 66, n.29); and Lorusso (2010: 121–2).
- 98 Garofalo (2008: 91–2). A brief text recounting the relationship between Galen and Glaucón is also found on f. 106v of Beinecke MS 1121 (see n. 36 above), preceding the beginning of the first book of the treatise on f. 107r. This is not accompanied by any further scholia, is clearly aimed at giving an introduction to the treatise, and does not follow the original text of the case history in the *On Affected Parts* very closely, but often takes the form of a synopsis in indirect speech, including linguistic elements of Byzantine Greek. A study of the text, accompanied by an edition and French translation is provided by García Novo (2003: 135–48).
- 99 Anonymus, 64, *Scholia on Galen's "Therapeutics to Glaucón"*, ed. Garofalo (2008) 97. The translation from Greek is my own.
- 100 Galen, *MMG*, 2.2, ed. Kühn (1826) XI.80.8.
- 101 On *hexis* in Galen with reference to relevant passages, see Singer (2014: 135, n. 2; 251, n. 77). See also Mattern (2008: 98–105), who discusses the role of a patient's *hexis* in Galen's clinical activity.
- 102 Galen, *Ars Med.*, 14, ed. Kühn (1821) I.341.7–10 = Boudon (2002) 315.12–316.3.
- 103 In a similar vein, see also the brief reference to *Therapeutics to Glaucón* itself in the *Scholia on Galen's on Affected Parts* edited by Moraux (1977) 32.5–12.
- 104 Anonymus, 59, 68, 71, and 78, *Scholia on Galen's "Therapeutics to Glaucón"*, ed. Garofalo (2008) 94–6, 98, 98, and 102.
- 105 Anonymus, 63 and 65, *Scholia on Galen's "Therapeutics to Glaucón"*, ed. Garofalo (2008) 97. *Outline of Empiricism* does not survive in Greek and is only available in an early Renaissance Latin translation (ed. Deichgräber, 1965).
- 106 In my discussion I include only works written in Greek, although there are some notable early Byzantine surviving examples written in Latin by authors such as Theodore Priscianus (fourth/fifth century AD) and Marcellus (late fourth/early fifth century AD). On these authors, see Formisano (2001: 64–84).
- 107 The most detailed survey of Byzantine medical literature, although now outdated, is by Hunger (1978: II.278–320); for a brief, fresh overview, see Bouras-Vallianatos (2015c: 105–9) and recently Bouras-Vallianatos (2016b: 1025–31).
- 108 See, for example, Strohmaier (1998: 169): “the chief claim to credit of Byzantine science – which had developed even fewer ideas than Arabic science – was that it had preserved the original Galenic texts”.
- 109 On the compilation techniques of early Byzantine medical authors, see the study by van der Eijk (2010: 519–54). See also Bouras-Vallianatos (2014: 337–53), who emphasises Alexander of Tralles' contributions in the field of pharmacology.
- 110 On this section of Galen's work, see the discussion by Peterson (1974: 40–2, 61–2), who argues that Galen's account is already selective and provides only the treatment for a sudden occurrence of the condition. On *leipothymia*, see n. 90.
- 111 In this I have been influenced by Philip van der Eijk's (2010: 536–51) methodology in his pioneering study on early Byzantine medical literature.

- 112 On Oribasios, see de Lucia (2006: 21–9). See also MacLachlan (2006: 100–38), who discusses the production of Oribasios’ epitomes.
- 113 On Aetios of Amida, see Romano (2006: 255–8); and Calà (2012: 10–53). See also the recent remarks on Aetios’ sources and compilation techniques in Books 1, 2, and 9 by Salazar and Martelli respectively in Eijk, Geller, Lehmhaus, Martelli, and Salazar (2015: 198–204).
- 114 On the use of first-person verbs and pronouns in Aetios of Amida’s medical compilation, see Debru (1992: 79–89).
- 115 On Alexander, see Puschmann (1878–9: I.75–108) and Guardasole (2006: 557–70).
- 116 Appendix, 6. On Alexander’s use of the epithet *theiotatos* for Galen, see Bouras-Vallianatos (2016a: 388–9). A few direct mentions of Galen’s name and his *Therapeutics to Glaucón* are also provided by Leo the physician (ninth century?) in his *Epitome of Medicine*; see, for example, the chapters on tertian and quartan fevers, 1.5 and 1.7, ed. Ermerins (1840) 95.1–2 and 20–1. We know very little about Leo and his works; see Bliquez (1999: 293–6). See also Gielen (Chapter 8) in this volume, who offers a fresh study of Leo’s other work, i.e. *Epitome on the Nature of Man*.
- 117 Oribasios, *Synopsis for Eunapios*, pr., ed. Raeder (1926) 318.17. On the use of terms denoting Oribasios’ working methods, see Eijk (2010: 526–8).
- 118 Aetios of Amida, *Tetrabiblos*, pr., ed. Olivieri (1935) I.10.1–4. Oribasios’ epitome of the vast Galenic corpus produced at the behest of Julian is also known from a reference in Patriarch Photios’ (ca. 810 – after 893) *Bibliotheca*, 216, ed. Henry (1962) 131.11–132.11.
- 119 Appendix, 8–39 and 54–81.
- 120 See, for example, Oribasios, *Synopsis for Eunapios*, 3.36, ed. Raeder (1926) 416.22–418.12; and Aetios of Amida, *Tetrabiblos*, 6.86 and 6.94, ed. Olivieri (1950) II.231.1–6 and 242.15–244.11.
- 121 Appendix, 175–9 and 194–203.
- 122 Appendix, 114–15.
- 123 On Aetios’ use of Oribasios, see Sideras (1974: 110–30); and Capone Ciollaro and Galli Calderini (1992: 51–72). Cf. van der Eijk (2010: 544–5).
- 124 Appendix, 152–3, 156–8 and 160–5.
- 125 Appendix, 137 and 173.
- 126 Appendix, 43–6 and 101–4.
- 127 For example, see the critical discussion by Calà (2012: 150–65) on Olivieri’s edition by Aetios of Amida and Zipser’s (2005: 211–34) study on the textual tradition of Alexander of Tralles’ work. On Aetios of Amida, see also Garzya (1984: 245–57).
- 128 On Alexander’s criticism of Galen, see Guardasole (2004: 219–34). In this Alexander did not influence Galen’s later readers, but it is noteworthy that there are only half as many surviving manuscripts of Alexander’s work as there are of Paul’s and Aetios’ – although this is not necessarily connected with Alexander’s more critical stance. An exception is the brief *Refutation of Galen* by Symeon Seth of the late eleventh century, whose arguments, however, remain in the theoretical arena and are not connected with contemporary medical practice. On this, see the recent study by Bouras-Vallianatos (2015a: 431–69).
- 129 We must bear in mind that chapter titles and their actual place on the folio vary greatly in Byzantine medical manuscripts and they could often be rearranged by scribes. In the case of Oribasios, both de Lucia (1999: 483, n. 20) and MacLachlan (2006: 115) consider the titles original to the text.
- 130 Paul of Aegina, *Epitome of Medicine*, 2.59, ed. Heiberg (1921) I.125.8–126.20. Paul of Aegina in his *Epitome of Medicine* shows he is attempting to condense the available material further and thus provide, in his own words, pr., ed. Heiberg (1921) I.2.8–16, a condensed manual for instant consultation that could be carried everywhere by physicians, just like lawyers, who were able to provide themselves with legal synopses. On Paul of Aegina, see the brief introduction by Lamagna (2006: 683–91).

- 131 See, for example, the fresh study by Graziosi (2015: 25–47) on portraits of Homer included in Arabic, Italian, and Byzantine manuscripts, which is an attempt to give new insights into contemporary literature. See also the recent thought-provoking study by Mavroudi (2015: 28–59).

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Index

- a capite ad calcem* 154, 194
Achilles 79
Acragas 25
acronyms 53
active reading 84, 97, 102, 107
Aelian 83
 Various History 88
Aeschylus
 Agamemnon 19
 Eumenides 19
 Prometheus Bound 19
 Suppliants 19
aetiology 11, 21, 82, 195, 196
Aetios of Amida 166, 194–6
 Tetrabiblos (Tetr.) 82, 195,
 198–202, 220
Agnellus 188
Alcmaeon of Croton 83
 On Nature 2, 7–26
Alexander of Aphrodisias 2, 88, 94
 On Aristotle “Topics” (In Ar. Top.) 105
Alexander of Aphrodisias (pseudo-)
 Medical Puzzles and Natural Problems
 62, 94–107
Alexander of Tralles 166, 194–6, 218–20
 On Fevers 195, 198–202
Alexandria/Alexandrian 7, 25, 161, 188–9,
 191–4, 216–19
Amasis 25
amplification 3, 83, 113, 117–21, 124–5
Anacharsis 74
anagraphics 55
anatomy 3, 138–41, 153–4, 156, 158, 162,
 165, 170–1, 181, 188
Anaxagoras 23, 84
Anaximenes 31, 40
al-Anbārī 132, 136–8, 144–6
 Book of the Reflections on the
 Indications of the Creator 132–3,
 136, 141, 144
Anchites 13
Andronicus 94
animal(s) 10–11, 30, 69–71, 75, 78–9, 83,
 86, 97, 135, 140–1, 147
Anonymus Londiniensis 11, 39
anthropology 3, 153
Antigenes 57
Antiochus 14
Antiphanes
 The Doctor 40
Antisthenes 73
Apollo 12, 77
aporiai 51
Arabic 3, 24, 67, 82, 113–14, 116–17,
 119–27, 131–2, 136–40, 142–7,
 166, 183, 188, 197, 212, 214, 216,
 219, 221
Archigenes 195
Archilochus 15, 77
Aristion 55
Aristippus 73–4
Aristophanes 31–4, 39, 40
 The Clouds (Nub.) 31–3, 40–1
 Women at the Thesmophoria (Thesm.)
 33–4, 41
Aristophanes of Byzantium 161–2, 172
 On Living Beings 161, 172
Aristotle/Aristotelian/Corpus Aristotelicum
 2, 35, 39, 50, 69, 70, 81, 94, 98–9,
 104–5, 138, 146, 161–2, 170, 172
 History of Animals (HA) 83, 161, 172
 Mechanical Problems 104
 Metaphysics 138
 Nicomachean Ethics (EN) 42, 83, 216
 On the Generation of Animals 12
 On the Parts of Animals (PA) 172
 On the Soul 83, 191
 Physiognomics (Physiognom.) 122, 127
 Politics (Pol.) 35, 42
 Posterior Analytics (APo.) 104

- Problems (Pr.)* 57, 62, 94–5, 103–5
Protreptic (Protr.) 68, 81
Supplementary Problems 94
Topics (Top.) 98, 104–5
 Asclepius 31, 38
 astronomical/astronomy 33, 86, 189
 asyndeton 7–11, 17, 23, 25
 Athenaeus 88
 Athenians 20
 athletics 75–9, 86–7
 Attic 7, 24, 185

 Bacchylides 25
 Baghdad 114, 123, 127
 Basil of Caesarea (the Great) 165
 Homily on the Words “Be Attentive to Yourself” 155, 169
 Basil of Caesarea (pseudo-)
 Commentary on the Prophet Isaiah 156, 169
 Bathylaus 12
 Bathyllus 9, 12–13, 17, 25
 Bible 156, 165
 biography/biographical, (auto-) 7, 25, 116, 126, 141
 blood 21, 24, 78, 161, 215
 body 3, 11–12, 20–1, 24, 30–2, 35–6, 38–40, 43, 50–2, 56, 76, 78–81, 86–7, 97, 101–2, 105–6, 120–1, 127, 131, 134–5, 137, 140–1, 145, 153–9, 165, 167, 193
 bone(s) 135–6, 145, 157–8, 163–4, 171–3, 193
 Boötes 55
 brain 18–21, 24, 32, 134–6, 145, 154–6, 161–4, 168, 190
 Brontinus 9, 12, 24
 Net 12
 Physics 12
 Robe 12
 Brotinus 9, 12–13, 16–17, 22, 24–5
 Byzantine/Byzantium 1, 3–4, 12, 41, 153–4, 156–7, 161–2, 165–8, 173–4, 180–1, 183–9, 194–7, 212–17, 219–21

 Callimachus 23, 157
 Tables 7
 Callistus 73
 case reports 48–50, 54, 58
 Cassius the Iatrosophist
 Medical Difficulties and Natural Problems 94
 cauterisation 153
 Cebes
 Tabula 71, 84
 Censorinus 24
 Cercops
 Descent into Hades 12
 Sacred Account 12
 Chaerion 55
 Chalcedonian 55
 Charicleia 25
 Christian(s), (-ity) 3, 113–14, 116, 126, 131–2, 134, 138, 141, 143, 145, 147, 153–4, 156–7, 159, 161–2, 164–5, 168, 172
 Chrysippus 69
 Church Fathers 3, 155–6, 165–6
 Cicero 53, 83
 For Lucius Murena 85
 On Old Age 88
 On the Orator (Or.) 42, 60
 Cicero (pseudo-)
 Rhetoric for Herennius (Rh. Her.) 60
 Clazomenae 55
 Cleanactides 55
 Clement of Alexandria 12
 Paedagogus 83
 Stromata (Strom.) 12, 25
 Cnidian Sentences 85
 Cnidos 15–16
 colic 33–4
 comedy 2, 24, 31, 33–4, 39
 commentary 105, 117–19, 121–5, 127, 134, 167, 180, 185–9, 191–3, 196, 212, 214, 216–17, 219
 commentator(s) 4, 87, 94, 103, 187, 189, 193–4, 197, 218
 Constantinople 154, 214
 Cos 11
 craftsman 10, 35, 99
 cranial suture 155, 158–63, 170
 Creator 3, 131–8, 140–4, 147, 155, 163
 Croton 2, 9, 11–13, 17, 20, 22, 24, 79, 83
 Cynic 73, 75
 Cyniscus 55
 Cyrus 72

 Danube 10
 Darius 26
 David the Physician 115
 Delearces 43
 Demaenetus 55
 Demetrius of Magnesia 23
 On Poets and Authors of the Same Name 7
 Demiurge 132–3, 142
 Democritus of Adbera 42
 Derveni papyrus 26

- diagnosis 3, 16, 51–2, 54, 58, 117, 181–2,
 184–5, 188, 190, 192, 194–6
 diagram 124, 187–8, 192–3, 218–19
diairesis 187, 191
 dialectic(al) 26, 86, 95, 98, 105
 diatribe 73, 81
 Dicaearchus 24
 didactic 2, 4, 15, 50, 55, 57–8, 73–4, 76,
 78–9, 96, 104, 123–4, 156, 158, 163,
 170, 188–9, 193–4, 196, 217–18
 diet 21, 52, 193, 195
 digestion 31
 Diogenes Laertius 7–8, 10, 13–14, 23–6,
 79, 86
 Diogenes of Apollonia 13, 23–4, 31, 40
 Diogenes the Cynic 73, 75
 Dion 79
 Dionysius 72
 Dionysius of Halicarnassus
On the Admirable Style of Demosthenes
(De Dem. Dict.) 106
 Dio of Prusa
Orations 71
 disease(s) 3, 10–11, 15–16, 20–1, 24,
 30–1, 34–5, 37, 40, 51–2, 57, 82, 87,
 100, 117–20, 182, 194, 214
 Doric 7, 20
 doxography 11, 24, 39
 dreams 37–8, 51–2
 drink 15, 30, 57, 59

ekphrasis 71
 embryo 10, 21, 24, 37
 emotional 53, 56, 68–9, 71
 Empedocles 11, 13, 18, 23–5
 empiricism 8, 16–17, 50–1
 empiricist 67, 99, 141
 encephalocentrism 168
 encephalon 135
 encyclopaedia 12, 41, 95
epanorthosis 86
 Epicrates 55
 Epictetus
Discourses (Disc.) 86
 Epicurean 24
 Epidaurus 38
 Epigenes (Galen's addressee) 80
 Epigenes the grammarian
On the Poetry Ascribed to Orpheus 12
 epilepsy 26
 epistemology/epistemological 17–18, 24,
 49–50, 54, 58, 99–100
 Erasinus 55
erotapokrisis 156
 erotematic 95

 Erxander 26
 Eryximachus 40
 ethics 2, 68, 70, 76, 79, 82
Etymologicum Magnum 157, 169–70
 etymology 155–8, 168, 170
 Eualcidas 55, 59
 Eudemus 86
 Eunapios 181, 195
 Euphanes 38
 Euripides 10, 75
Children of Heracles 18
Hippolytus (Hipp.) 17, 40
The Phoenician Women 73
Trojan Women (Tro.) 40
 Europe 10, 103
 Evalcidas 37
 excerpt 3, 156, 158, 165, 169, 171, 173,
 183, 197, 214–15
 exhortation 13, 70, 75, 81, 83, 85, 134
 experience 1, 15–16, 19–20, 35, 49–51,
 57, 70, 100, 106, 115, 122, 124, 153,
 182, 188–9, 195, 197, 217
 explicitation 120, 125, 127

 al-Fārābī 146–7
On the Harmonisation of the Opinions
of the Two Sages Plato and Aristotle
 138–41, 146
 fart 2, 31–2, 39, 41
 Favorinus 84
On Fortune 71
 fever 20, 30, 37, 59, 168, 182, 184–5,
 189–91, 194–5, 214, 220
 fibres 157
 food 30, 57
 fortune 68, 71–2, 84

 Galen/Galenic 2–4, 11, 24, 37, 39, 42,
 48, 50–1, 53, 58, 60, 67–88, 98,
 100, 104–5, 113–27, 131–47, 153,
 155, 158–66, 168, 171–2, 180–202,
 212–20
Against Favorinus' Attack on
Socrates 84
Antecedent Causes 127
Art of Medicine (Ars Med.) 115, 188,
 193, 213, 218–19
Avoiding Distress (Ind.) 72–3, 83, 85
Character Traits (Mor.) 70, 72, 78,
 84–7
Containing Causes 127
Exhortation to the Study of Medicine
(Protr.) 2, 67–88
Good Condition (Bon. Hab.) 79, 88
Medical Names 127

On Affected Parts (Loc. Aff.) 181, 192, 212, 219
On Anatomical Procedures (AA) 42, 127, 139–40, 142–3, 147, 181
On Bones for Beginners (Oss. Tir.) 158–60, 163, 170–3
On Crises 190, 213
On Critical Days 190
On Habits 193
On Hippocrates' "Aphorisms" 127
On Hippocrates' "Epidemics I" (In Hipp. Epid. I) 117, 119, 126
On Hippocrates' "Epidemics II" (In Hipp. Epid. II) 122–3, 127
On Hippocrates' "Epidemics III" (Comm. Hipp. Epid. III) 61
On Hippocrates' "Epidemics VI" 123
On Hippocrates' "Oath" 127
On Hippocrates' "Regimen in Acute Diseases" 127
On Medical Experience 24
On Mixtures 127, 181, 190
On My Own Books (Lib. Prop.) 43, 82, 158, 170, 213
On My Own Opinions 144
On Plethora 115
On Problematical Movements 62
On Prognosis (Praen.) 86
On Sects for Beginners (Sect. Int.) 100, 105, 188, 217
On the Affections and Errors of the Soul (Aff. Dig.) 70, 74, 84–5
On the Capacities of Foodstuffs 82
On the Capacities of Simple Drugs 121, 127, 181
On the Composition of Drugs According to Kind (Comp. Med. Gen.) 213
On the Composition of Drugs According to Place (Comp. Med. Loc.) 213
On the Differences among Fevers 190
On the Doctrines of Hippocrates and Plato (PHP) 69–70, 83–5
On the Motion of Muscles (Mot. Musc.) 104
On the Natural Capacities 193
On the Order of My Own books (Ord. Lib.) 158, 170
On the Preservation of Health (San. Tu.) 80, 85, 88, 213
On the Pulse for Beginners (Puls.) 115, 188, 191, 218
On the Usefulness of the Parts (UP) 3, 131–47, 164, 171, 173
Outline of Empiricism 193, 219

Parts of the Art of Medicine 127
Recognising the Best Physician (Opt. Med. Cogn.) 85
The Best Method of Teaching (Opt. Doct.) 83–4
The Best Physician is also a Philosopher (Opt. Med.) 67, 78, 85, 87
The Capacities of the Soul Depend on the Mixtures of the Body 82, 127, 147
The Exercise with the Small Ball (Parv. Pil.) 80, 88
Therapeutic Method (MM) 115, 182, 190, 193, 213–14, 216
Therapeutics to Glaucón (MMG) 4, 42, 180–202, 212–19
Thrasybulus 82
 Galen (pseudo-)
 On the Best Sect (Opt. Sect.) 99, 105
 Medical Definitions (Def. Med.) 155, 168–9
 al-Ġazālī
 Deliverance from Error 141, 147
Genealogies 15
 Glaucón (Galen's friend) 42, 181–2, 192–3, 195, 212–14
 Glaucón (Socrates' interlocutor) 31
 Glycas, Michael
 Chronicle (Annales) 162, 172
 Gorgias 68
 Helen 36
 Gregory of Nazianzus 126, 172
 Oration on Holy Baptism 155, 169
 Gregory of Nyssa 156, 165
 On the Making of Man 166, 169
 gynaecological/gynaecology 33–4, 42, 195
 habituation 70
 haemorrhage 186, 195–6
 handbook 7, 52, 180–2, 194–5, 197, 213–14
 head 24, 37, 55, 59, 101, 134–5, 145, 154–64, 168, 171, 194
 heart 134, 161
 Hebrew 183
 Hecataeus of Miletus 14–15
 Heliodorus
 Aethiopica (Aethop.) 25
 Hellenistic 12, 68
 Hera 55
 Heraclea 12
 Heracles 19, 55, 79
 Heraclitus, commentator
 Homeric Questions 114
 Heraclitus, philosopher 10, 13–15, 23, 26
 Hermes 71–2

- Hermotimus 84
 Herodotus 10–11, 13–14, 18–19, 22, 25–6
 Hesiod 15, 216
 Works and Days 13
 heuristic 102
 hexis 193, 219
 Hiero of Syracuse 25
 Hippasus 25
 Hippocrates/Hippocratic corpus/
 Hippocratics 2, 11, 15, 20, 25, 30–43, 48–62, 72, 78–9, 82, 87, 95, 104, 114, 117–19, 122–3, 127, 158, 161, 165, 167, 171, 183, 187–91, 216–17
 Affections (Aff.) 35–6, 39, 42
 Aphorisms (Aph.) 37, 43, 78, 87–8, 127, 167, 189–91, 218
 Epidemics (Epid.) 2, 37, 43, 48–62, 117, 119, 121–3, 127
 Letters (Epist.) 42
 On Airs, Waters, Places (Aër.) 20, 27, 34, 41, 95
 On Ancient Medicine (VM) 10, 16, 24, 26
 On Breaths 39
 On Diseases (Morb.) 11, 24
 On Diseases of Women (Mul.) 41
 On Flesh (Carn.) 16, 26
 On Fractures (Fract.) 26
 On Haemorrhoids (Haem.) 25
 On Head Wounds (Cap. Vul.) 158–9, 171
 On Humours (Hum.) 52, 60
 On Internal Affections 59
 On Nutriment (De Alim.) 88, 190
 On Regimen (Vict.) 10, 16, 24, 26, 37, 43, 59
 On Regimen in Acute Diseases (Acut.) 16, 26, 127
 On the Art (Art.) 11, 24, 42
 On the Nature of Man (Nat. Hom.) 16, 20, 26–7
 On the Nature of Woman (Nat. Mul.) 25
 On the Sacred Disease (Morb. Sacr.) 25–6, 59
 On Winds (Flat.) 2, 10–11, 18, 24, 26, 30–1, 33, 36, 39–42
 Physician (Medic.) 38, 43
 Prognostic (Prog.) 20, 27, 189–90
 Prorrhetic (Prorrh.) 17, 26, 57
 Seven-/Eight-Month Child (Sept. Oct.) 37, 42
 al-Hīrah 113
 Homer 10, 15, 60, 72, 157–8, 216, 221
 Iliad 18–19, 73, 106, 170, 215
 Odyssey 18–19, 170
 Ḥubaysh 3, 114, 125, 131–2, 138, 140, 143–4, 146–7
 Ḥunayn ibn Ishāq 3, 67, 113–27, 131, 136, 140, 143–4, 146, 214, 216
 Aphorisms Drawn from the Epidemics 123–4
 Epidemics in the Form of Questions and Answers 123
 Epistle (Risālah) 82, 113–16, 124–6, 143, 146, 214
 Fruit of Hippocrates' Book on Visiting Diseases 123
 Fruits of the Nineteen Extant Parts of Galen's Commentary on Hippocrates' 123
 Questions on Urine Extracted from Hippocrates' "Epidemics" 123
 Summaries of the Contents of the First, Second and Third Books of Hippocrates' "Epidemics" in the Form of Questions and Answers 123
 Hymn to Aphrodite 25
 Hymn to Demeter 16
 Iamblichus 11, 24, 81
 On the Pythagorean Life 12
 Protreptic (Protr.) 68, 71, 83–4, 87
 iatrosophia 166
 Ibn Abī Uṣaybi'ah
 Best Accounts of the Classes of Physicians 116, 123, 126–7, 139, 147
 Ibn 'Adī 145
 Ibn Bihrīz 124
 Ibn al-Faḍl
 Essay Containing Ideas Useful for the Soul 141–2
 Ibn al-Munajjim 114
 Ibn Qayyim 147
 Ibn Riḍwān 216
 Ibn Rushd 125, 147
 Ibn Sarābiyūn 126
 Ibn Sīnā 147
 Ibn Taymīya 147
 Ibn al-Ṭayyib 145
 Fruits 123, 125
 Ibn Zur'a 144, 147
 incipit 2, 7–8, 13–14, 21–3, 25–6
 indifferents, Stoic 74
 inflammation 181–2, 194
 Ionic 7–8
 Ion of Chios 13
 Triads 12
 Iphicrates 74
 Iraq 113, 138

- Islamic 1, 3–4, 131–2, 134, 136
 Isocrates
 Antidosis 68
- al-Jāḥiẓ
 Book of Examples and their Study 132–3
 al-Jāḥiẓ (pseudo?) 136
 Jerome, St 67
 Against Jovinianus (Adv. Jov.) 82
 John of Alexandria 192, 216
 John Philoponos 192, 216
 John the Grammarian 216
 John Zacharias *see* Zacharias, John
 Julian, Emperor 195–6, 220
 Justin (pseudo-)
 Questions and Responses to the Orthodox 104
- al-Kaskarī, Isrāʾīl
 Treatise of the Unity of the Creator and the Trinity of His Properties 145
 Kom el-Dikka 188
 Koran *see* Quran
krasis 193
- Lamprias catalogue 81, 88, 105
 laughter 31, 34, 37–9, 42–3, 59
 law-courts 22, 68
 layman 15, 23, 35, 50, 59, 99, 116, 168, 181–2
leipothymia 191–2, 194–6, 218–19
 lemma(ta) 185, 189–92, 216
 Leon 9, 12–13, 17, 25
 Leo the Mathematician (or the Philosopher) 154
 Leo the Physician 3, 154, 156, 158, 162–6, 183, 220
 Epitome of Medicine 165, 168, 220
 Epitome on the Nature of Men 3, 153–4, 165, 167–70, 172–4
Lesetext 194
 Lucian
 Charon 88
 Lyceum 96
 Lycurgus 77
 Lysias 68
- Magna Graecia 11–12
 Maimonides, Moses
 Synopsis 125
 Marcellus 219
 marginal annotation(s) 185, 187, 192
 al-Masīḥī
 The Uses of the Parts 139
 Maximus the Confessor 167
 Maximus of Tyre 77
 Dissertations (Diss.) 87
 medical anthropology 3
 medical curriculum 4, 188–9, 216
 medical education 52, 88, 103, 174, 188–9
 medical student(s) 3, 49, 52, 81, 124, 165, 218
 Megara 24
 Meletios 153–74
 On the Constitution of Man 153–74
 Melidia 55
 Melkite 141
 membrane(s) 120, 163–4
 memory 49, 52–3, 56, 58, 126, 188
 Meno 39
 mental picture(s) 54–5
 Metapontum 12, 24
 Michael Glycas *see* Glycas, Michael
 Milo of Croton 79
 mind 37–8, 49, 52, 133–4, 142, 168
 mise en page (folio layout) 185
 mnemonic effort 2, 49
 mnemonics 52–7
 monotheistic 140
 moral 22, 53, 68, 70–1, 73–5, 78, 80–2, 87
 moralism 2, 68, 72, 73
 Moses 132
 Moses Maimonides *see* Maimonides, Moses
 Muses 15
 Mytilenaeans 26
- Neanthes of Cyzicus 25
 Nemesios 131
 On the Nature of Man 143, 166
 Nerios 56
 Nicarchus 32, 41
 Nile 10
notabilia 185
- Onomatocritus 12
 orality 57
 Oribasios 166, 172, 181, 194–6, 220
 Medical Collections (Coll. Med.) 82, 171, 173
 Synopsis for Eunapios 181, 195–6, 198–202, 214, 220
 Synopsis for Eustathios 195
 Origen 143
 Orion
 Etymologicum 157, 169–70

- Orpheus
Mixing-Bowl 12
 Orphic 12, 16, 25–6
 Ostrogoths 217
- pagan 154, 156–7, 162, 164, 168
paideia 70, 75, 80, 86
 Palaiologan 214
Palatine Anthology 41
 Palladios 192
 Pantamides 55
 papyri 26, 39, 95, 170, 212, 214, 216
 paradoxography 99, 105
 paratextual 187
 Parmenides 11, 18, 23–4, 26
 patient 2, 15–16, 35, 37–9, 42, 48–58,
 61, 100, 114, 181, 184, 189–91, 195,
 217, 219
 Paul of Aegina 166, 183, 194
Epitome of Medicine 196, 220
 Pausanias 11, 13
 Peirithus 9, 17, 25
 Peloponnesian war 20
 Persephone 12
 Petronius 31
Dinner with Trimalchio 32
Satiricon 40
 pharmacology/pharmacological 33, 35,
 195, 219
 Pherecydes 23
philiatros 182, 191, 194–5, 213–14
 Philinus 24
 Philiscus 55
 Philistion 11
 Philo 83
 Philolaus 23, 25
 Philostratus
On Gymnastics 87
 phlebotomy 153, 181, 185
 Phoenicia 19
 Phoenician of Emesa 25
 Photios
Bibliotheca 220
 Phrygia 153
 physiology/physiological 3, 78, 106,
 153–4, 165
 Pindar 10, 19
Nemean Ode (Nem.) 18–19, 26
Olympian Ode (Ol.) 19, 25
Pythian Ode (Pyth.) 13, 25
 Plato/Platonic 35, 39, 69–70, 72, 77, 81,
 99, 138, 164, 181
Euthydemus 68
Phaedo 68
- Phaedrus* 35, 42
Republic (Rep.) 26, 31
Sophist 10
Symposium (Symp.) 40
Timaeus 31, 40
 Pliny the Elder 83
 Plutarch/Plutarchan 2, 68–9, 71–7, 81–3,
 86, 88, 94, 97, 105–6
Against Nobility 74
An Exhortation to Philosophy,
Addressed to a Rich Young Man 81
An Exhortation to Philosophy, Addressed
to Asclepiades of Pergamum 81
Causes of Natural Phenomena 94, 97
Life of Solon 74
Life of Themistocles 74
Moralia 69
On Listening to Lectures 76
On Moral Virtue (De virt. mor.) 84
On Reading the Poets (De aud. poet.)
 73, 76–7, 86
On the Cleverness of Animals (De soll.
an.) 69, 83
On the Eating of Flesh (De esu) 69, 83
On the Fortune of the Romans 71
On the Love of Offspring 69
On the Tranquillity of the Soul (De
tranq. an.) 73, 84
Platonic Questions 104
Political Precepts (Praec. ger. reip.) 84
Precepts of Marriage 75
Roman Questions 104
Sayings of Kings and Commanders 74
Table Talk (Quaest. conv.) 69, 84, 94, 97
Whether Beasts are Rational (Gryllus)
 69, 83
Whether Old Men Should Engage in
Public Affairs (An seni) 84
 Plutarch (pseudo-)
On the Education of Children 74, 85
pneuma 30
 poetry 73, 77, 165
 polemical 8, 16, 22, 76, 79
 Pollux 88
 Polycrates 25
 popular philosophy 68, 71–2
 Poseidonia 12
 Posidonius of Apamea 69–70, 73, 81
 practical ethics 2, 68, 70, 76
 preface 2, 7, 13, 15, 23, 25, 94, 96–7,
 100–3, 105, 145, 153
 Priam 72
 Priscianus Theodore *see* Theodore
 Priscianus

- Proclus 84
 Prodicus of Samos 12
 prognosis 56, 181
prohairesis 69
 protreptic 68, 70–7, 81–4, 96
 Psalm(s) 155–5, 169–70
- Quintilian
Institutes of Oratory 74, 88
 quotation(s) 3, 7, 78, 80, 118, 123, 156–8, 165, 192, 194–5
 Quran 144, 146
- Ravenna 188, 217
 al-Rāzī
Comprehensive Book 124, 127
Outline 125
 recipe 33–4, 41
 rhetoric(al) 2, 13, 36, 68–9, 71, 76–8, 81, 86, 102, 106
 Rome 76, 181
 Rufus of Ephesus 195
On Bones 173
- Salmawayh ibn Bunān 126
 Sappho 75
 satire 2, 39
 Satyros 55
 scholia 185–8, 192–4, 215–16, 219
 scribe(s) 3, 8, 185–8, 196–7, 220
 Scythian 74
 seal 13, 25–6
 semen 10
 Seneca 81
Letters (Ep.) 70, 84
 Sergios (of Reshaina) 143
 Seth Symeon *see* Symeon Seth
 sexual 31, 33–4, 41, 78, 80, 121
 Sicilian 181
 Silenus 37, 55, 59
 Simonides 53
 Simplikios 192
 skull 155, 158–64, 171
 Socrates 31–2, 72, 75, 77
 Solon 10, 75
 Soranus 170
Etymologies of the Body of Man 157, 170
Gynaecology 95
 Soranus (pseudo-)
Introduction 88
 soul 12, 16, 38, 70–1, 75–80, 82, 85–6, 88, 101–2, 135, 153–5, 167–8, 190
 Spartans 20
- stars 142
 Stephen 187–93, 212, 217, 219
Commentary on Galen's "Therapeutics to Glaucōn" 189, 217–18
Commentary on the "Aphorisms" of Hippocrates 217
Commentary on the "Prognostic" of Hippocrates 216–17
 Stobaeus
Florilegium 74, 86
 Stoics/Stoicism 69, 73–4, 81, 83, 168
 Strepsiades 32
Suda 12, 24, 41
 Suetonius
Claudius 41
 Susarion 24
 swellings 181–2
 Symeon Seth
Refutation of Galen 220
 symptom(s) 15–16, 20, 37, 43, 52–3, 59, 78, 182, 190, 195, 214
 Syriac 113–17, 119, 121, 123–4, 126–7, 132, 136, 138, 143–4, 183, 214
- Tartarus 10
technē 32, 140
 Telauges 25
 teleological 3, 131–2, 140, 164–5
 Thābit ibn Qurra
Abridgement 125
Summaries 125
 Thasos/Thasian 19, 43, 55
 Theagenes 25
 Theano 24
 theatre 38
 Themistocles 74, 79
 Theodore Priscianus 219
 Theodoret 131
On Divine Providence 143
 Theodorus 56
 Theodosius 25
 Theognis 13, 26
 Theophanes (Chrysobalantes) 215
Medical Epitome 186
 Theophilos (Protospatharios) 170
On the Constitution of Man 169, 172
 Theophrastean 11
 Theophrastus 83, 161
 Thucydides 13–14, 18, 20, 22, 25–6
 Thurian 33
 Tiberiopolis 153
 Timocrates 56
 Tisamenus 55

tragedy 53

Trimalchio 32, 40–1

Tripodiscus 24

tumour 182

Tyche 71–2

Tyre 19

Ulysses 157

vade mecum 183

vomiting 20

Xenophanes 15, 18, 26, 88

Xenophon 35

Memorabilia (Mem.) 42, 83

Oeconomicus 83

Yūḥannā ibn Māsawayh 115, 124, 126

Zacharias, John (*aktouarios*) 184, 188, 194

Medical Epitome 181, 213

Zeus 33

Zopyrus of Heraclea 12